THE IMPACT OF ANIMAL CRUELTY AND FUTURE INTERPERSONAL VIOLENCE: A QUANTITATIVE STUDY OF DISPOSED ANIMAL CRUELTY CASES AND CRIMINAL HISTORIES IN TEXAS

By

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DEDICATION

I am incredibly blessed and fortunate to be surrounded by a fantastic support system of family and friends. This achievement could not have been accomplished without their continued love and support.

Thank you to the beautiful group of people I get to call my friends. Your continual love and encouragement, lending of an open ear, and comedic relief helped me get through these last two years. A special thank you to Tyler Mangin and Kristen Antony for always giving me a fantastic place to stay while in Boston. It was a fantastic way to end my long days.

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ABSTRACT

This study uses quantitative analysis to examine whether individuals arrested for animal cruelty have a higher likelihood of domestic violence chargers compared to a control group of property offenders. Examination of a secondary data set provided by the Texas Department of Public Safety utilizes logistic regression analysis to determine whether individuals who have committed an animal cruelty offense are more likely than a comparison group of property offenders to have future domestic violence offenses.

A random sample of 414 male animal cruelty offenders, and a control group of property offenders, were evaluated to identify the likelihood of future domestic violence offenses. Offender criminal histories were employed to control for previous domestic violence offenses and age. Female offenders were also excluded from the study.

The logistic regression found that animal cruelty offenders were not more likely than the control group to have future domestic violence offenses ($p = 0.076$) and failed to reject the null hypothesis.

Key words: Animal cruelty offense, domestic violence, interpersonal violence, cross-reporting, property offenses, “the link”

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LIST OF ACRONYMS

AWA	Animal Welfare Act
APA	Administrative Procedures Act
ESA	Endangered Species Act
PAW	Pre-Adjudication Animal Welfare Court
PACT	Preventing Animal Cruelty and Torture Act
NBIRS	Nation Based Incident Reporting System
CCH	Texas Computerized Criminal History System
CJIS	Criminal Justice Information System
DPS	Texas Department of Public Safety
SIN	State Identification Numbers

Chapter 1

In 2014, the Los Angeles Police arrested and detained Alexander Hernandez on animal cruelty charges for killing two dogs (Solomon, 2014). When law enforcement ran ballistics on the gun used to kill both dogs, it was determined that the same weapon was linked to the murder of four people (Solomon, 2014). Hernandez was charged with four counts of murder, as well as attempted murder, animal cruelty, and several other charges (City News Service, 2017). The co-occurrence of animal cruelty and violent crimes is well documented; studies have found that individuals who abuse animals also have a high likelihood of engaging in other crimes including drug offenses, robbery, and public disorder crimes (Luke et al., 1997; Levitt et al, 2016; Vaughn et al., 2009). Additionally, studies have found a relationship exists between perpetrators who abuse animals and who also commit interpersonal violence which includes child abuse, elderly abuse, sexual abuse, and domestic violence (Levitt et al, 2016; Newberry, 2015; McDonough et al., 2015; Peak et al., 2012). This relationship has become widely known and referred to within human-animal studies literature as “the link” (National Link Coalition, n.d.).

Abusers use animals to intimidate and maintain control over victims by threatening, beating, or killing the family pet (Kingston, 2016; Richard & Reese, 2019; Simmons & Lehmann, 2007). In 1997, Ascione found that 71 percent of battered women studied had reported their abusive partner had threatened their pets and, in 57 percent of cases, the animals were either harmed or killed. “Approximately a third of those who abused a pet belonging to their current or former intimate partner did so in order to retaliate against that partner, and almost half were arrested for domestic violence at some point in their lives” (Levitt et al., 2016, p. 53).

An increasing body of literature has utilized interviews, intake surveys, and other types of personal accounts from abusers and/or victims to examine the relationship between animal abuse and interpersonal violence (Ascione, 1997; Simmons & Lehmann, 2007; Newberry, 2017;

McDonald et al., 2015; Hardesty et al. 2013). However, only a few studies have evaluated offender criminal histories through arrest reports (Levitt et al., 2016; Richard & Reese, 2019) or offense reports (White & Quick, 2019; Burchfield, 2016). For this study, disposed cases and criminal histories of animal abusers were utilized to evaluate the likelihood of a specific form of interpersonal violence, domestic violence, compared to a control group of property offenders.

Background

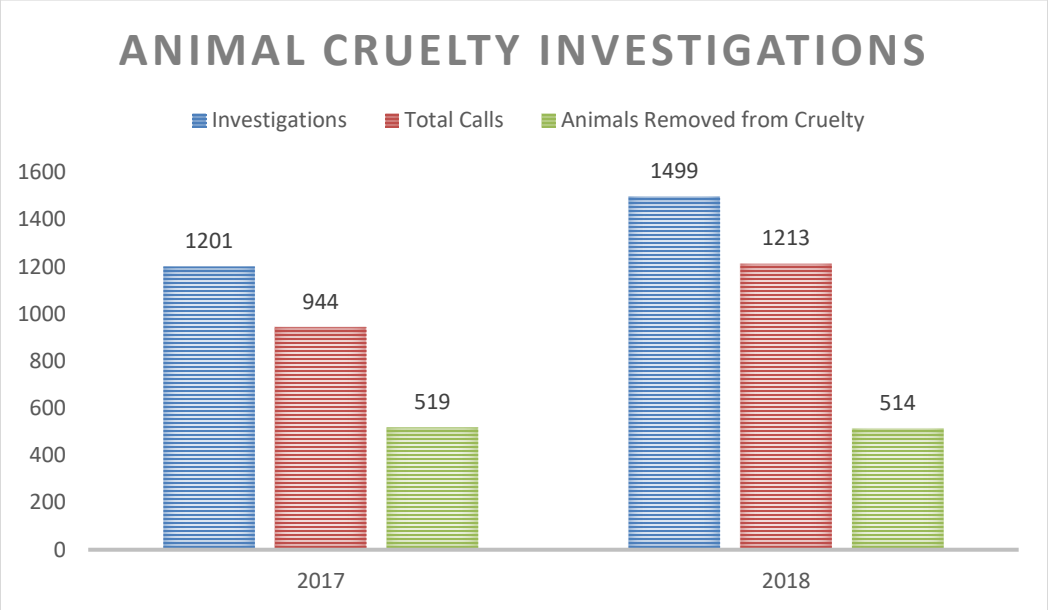
Animal cruelty is a national issue that impacts every state. In 2016, the Federal Bureau of Investigation (FBI) announced the Bureau would begin collecting animal cruelty data from law enforcement agencies who participate in the Nation Based Incident Reporting System (NBIRS). Before the change in 2016, animal cruelty crimes were combined with the "All Other Offenses" category in the Uniform Crime Reporting (UCR) Programs' annual report (FBI, 2016). The FBI's justification for separating animal cruelty into an independent category was to identify possible patterns between animal abuse and other offenses (FBI, 2016).

At the time of this research, animal cruelty data had only been reported to the FBI's NBIRS for 2016, 2017, and 2018. The Federal government does not mandate participation in the NBIRS; participation is subject to individual, local, and state agencies, or local or state laws may require agencies to participate (FBI, 2018). Thirty states reported one or more animal cruelty offenses to NBIRS in 2018, as indicated in Table 2. Furthermore, Table 1 categorized offenders based on age and sex. Utilizing the NBIRS data in Table 1, males have a higher number of reported animal cruelty offenses compared to females. For example, in 2018 there were 2,831 male offenders compared to 1,818 female offenders. Additionally, most offenses committed during the three-year segment were committed by individuals 21 years of age and older. In 2017 and 2018, the age range for offenders with the most animal cruelty offenses were 26-30 with 390

offenders in 2017 and 619 offenders in 2018. The data shows a slight deviation for 2016 during which the largest number of offenders (121) fell into the 31-35 age range. Alternatively, in 2016, the second highest number of offenders (118) fell into the 26-30 age range. It is important to note that the substantial number of offenders in all three years were listed under unknown age, which might have changed the data if the age was known (2016, 148; 2017, 379; 2018, 537).

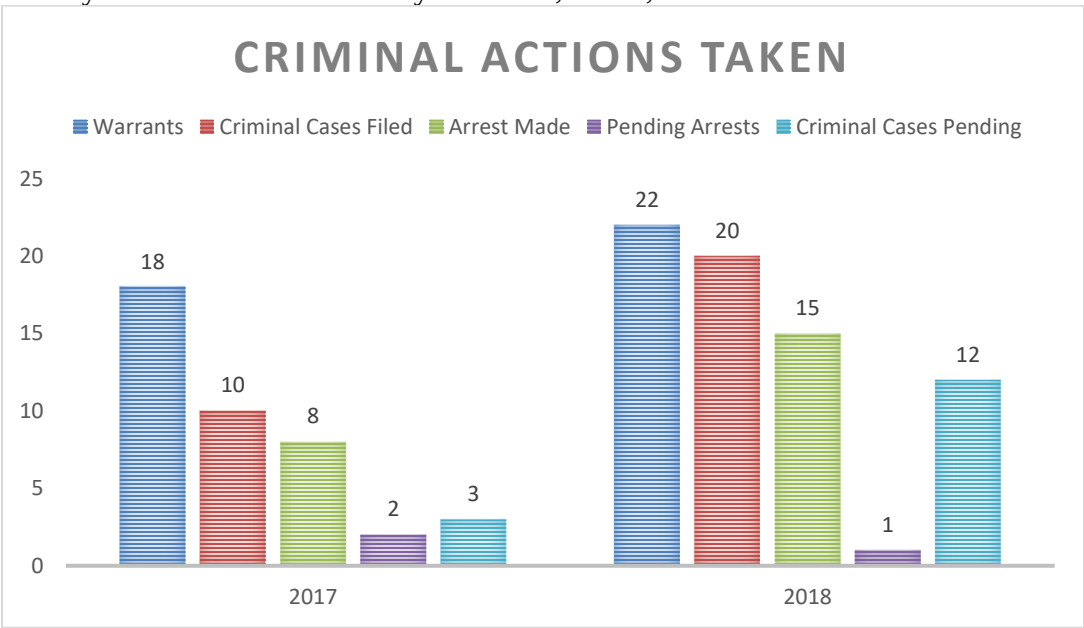
This study specifically focused on the state of Texas. Available data for Dallas county was evaluated, providing a snapshot of animal cruelty offenses in one of the largest counties in the state. In Dallas county, animal cruelty is investigated by local law enforcement and the SPCA of Texas. Through a Memorandum of Understanding established in November 2016 between SPCA of Texas and Dallas Police Department, the SPCA published the data based on investigations conducted by the organization; it is represented in Figures 1 and 2. Figure 1 illustrates an increase in both investigations and total calls between 2017 and 2018. Interestingly, the data showed more investigations were completed then calls. Additionally, Figure 2 also illustrates an increase in the majority of the data points between 2017 and 2018; specifically, there was a significant increase in warrants issued, criminal cases filed, arrests made, and criminal cases pending.

Figure 1 City of Dallas Animal Cruelty Investigations, Total Calls, and Removed Animals 2017 and 2018



Note: Data collected from SPCA of Texas' Animal Cruelty Investigations Unit for 2017 and 2018.

Figure 2 City of Dallas Animal Cruelty Warrants, Cases, and Arrest for 2017 and 2018



Note: Data collected from SPCA of Texas' Animal Cruelty Investigations Unit for 2017 and 2018.

Some community members, law enforcement, animal welfare organizations, and anti-interpersonal violence organizations agree that animal abuse is a social issue and there is a strong

connection between animal abuse and other violent crimes (Ascione, 1997; Burchfield, 2016). Further review and evaluation of animal cruelty criminal charges over a period of time are needed, as compared to a control group, to determine if there is a higher likelihood of future domestic violence charges following animal cruelty offenses. Therefore, this study sought to examine the disposed cases and criminal histories of animal cruelty offenders and property offenders in Texas to determine if animal cruelty offenders have a higher likelihood of domestic violence charges than property offenders.

Law and Policy Review

Federal

The Animal Welfare Act (AWA) of 1966 is the "primary federal animal protection law" in the United States (Animal Legal Defense Fund [ALDF], n.d.). The AWA, which has sustained several revisions and amendments, provides the bare minimum acceptable standards pertaining to certain animals used for research, handling, licensing, and the commercial sale of animals of today. While this policy lays the foundation at the federal level for animal welfare in certain settings, limited protections are provided to animals experiencing abuse and cruelty. "Perhaps ironically, the AWA otherwise failed to regulate the treatment of animals beyond the walls of research institutions, leaving state cruelty statutes still the primary laws affecting the treatment and care of pets in the community" (Patronek, 2016).

In 1999, an amendment to the AWA was passed to provide further guidance regarding the depiction of animal cruelty and dogfighting. The Animal Welfare Act (1999) included a provision that prohibited "knowingly creat[ing], sell[ing], or possess[ing] a depiction of animal cruelty with the intention of placing that depiction in interstate or foreign commerce for commercial gain, shall be fined under this title or imprisoned not more than 5 years, or both" (18

U.S.C. § 48, 1999). In *United States v. Stevens* (2010), the defendant argued his conviction violated the prohibitions against selling videos and images of dogfighting was unconstitutional. His argument rested upon the notion that a conviction was a violation of his right to freedom of speech under the First Amendment (U.S. v. Stevens, 2010). The Supreme Court found that several portions of 18 U.S.C. § 48 (1999) were unconstitutional and overbroad; specifically, the law impeded the defendant's First Amendment rights. Resulting from the Supreme Court's decision of *United States v. Stevens* (2010), the policy was amended, resulting in the Animal Crush Video Prohibition Act of 2010, identified as 111 H.R. § 294 (2010). The new language of 111 H.R. § 294 (2010) narrowed the initial definition and included language declaring said acts as obscene.

The Agriculture Improvement Act of 2018, or H.R. 2, is a large piece of legislation passed with overwhelming support in Congress to improve access to services, protections, and shelter for domestic violence victims and their pets. Under Section 12502 of H.R. 2 (2018), animals are protected under interstate protection orders in "crimes related to domestic violence and stalking targeting pets." This section also extends the protection order to "the pet, service animal, emotional support animal, or horse of that person" (H.R. 2, 2018). Inspired by the understanding that abusers use animals to control domestic violence victims, the language in H.R. 2 protects animals in domestic violence situations by extending protection under restraining orders granted to victims to include their animals. Additionally, section 12616 of H.R. 2 (2018) prohibits animal fighting in all 50 states, including U.S. territories. Before H.R. 2, animal fighting was prohibited in only the continental United States, allowing for territories to partake in legal cockfighting. While the passage of H.R. 2 has greatly improved the protections for domestic violence victims and their pets, legislation nationally is still inadequate as only 34

states explicitly include animals in protection orders, indicating animals remain under-protected in several states (ADFL, 2020a).

Recently, the Preventing Animal Cruelty and Torture Act (PACT), or H.R. 724, became federal law in November 2019. This new legislation expanded the definition of animal cruelty and provided additional protections for animals not originally protected under AWA. Under H.R. 724, protections based on the type of animal extended to "one or more living non-human mammals, birds, reptiles, or amphibians." This legislation also makes the act and/or distribution of animal crush videos a federal crime, opening the ability for federal prosecution of animal cruelty in states were laws barely meet the minimum standards of the AWA. PACT (2019) is a positive step toward increasing protections at the federal level, allowing for additional protections for animals in the United States (ALDF, 2020a). However, PACT (2019) includes several exemptions such as "customary and normal" agricultural and veterinary practices, and "does not prohibit animal neglect" (ALDF, 2020a).

Applicable State Law

Animal Cruelty Laws. Animal cruelty laws are mostly enforced at the state level. State legislation specifically addresses the act of animal cruelty and provides guidelines for prosecution and criminal charges. Penalties, definitions, and type of animals protected under state laws vary significantly throughout all 50 states and United States territories. ALDF releases an annual ranking of state animal protection laws with the goal of identifying and "assess[ing] the relative strengths and weaknesses of each U.S. state's and territory's animal protection laws, and ranks them accordingly" (ALDF, 2019). The ALDF's 2019 report ranked Illinois first for the twelfth year in a row for the state's relatively strong animal protection laws. Meanwhile, Kentucky finally broke their twelve-year streak as the state with the worst animal protection laws

after implementing legislation prohibiting animal sexual assault (ALDF, 2020a). The state of Texas ranked eleventh on the ALDF's 2019 Rankings Report, placing the state in the top tier for animal protection legislation compared to the other states. The ALDF's ranking of Texas was partially due to the state's process of incremental increase in sentencing for repeat offenders as well as the ability of the court to order the forfeiture of an animal pre-conviction (ALDF, 2020b). However, ALDF did note Texas still lacked cross-reporting between departments and agencies which prevented the state from a higher ranking (ALDF, 2020b). Cross-reporting is a collective information reporting process between multiple agencies to ensure appropriate actions are taken to address public safety and animal and human welfare issues (Colorado LINK Project, 2013, para. 1).

Texas state animal abuse laws. The Texas Penal Code purpose is "to establish a system of prohibitions, penalties, and correctional measures to deal with conduct that unjustifiably and inexcusably causes or threatens harm to those individual or public interests for which state protection is appropriate" (Tex. Pen. Code § 1.02). There are ten sections under the Texas Penal Code; animal cruelty falls under Title 9, Offenses Against Public Order and Decency. Five sections are dedicated to offenses committed against animals and include definitions of animal cruelty and stipulate the prosecution of abusers. The following codes were employed to conduct this research:

- Sec. 42.09. Cruelty to Livestock Animals.
- Sec. 42.091. Attack on Assistance Animal.
- Sec. 42.092. Cruelty to Nonlivestock Animals.
- Sec. 42.10. Dog Fighting.
- Sec. 42.105. Cockfighting.

In Section 42.092 (a)(2) Cruelty to Nonlivestock Animals, an animal is defined as "a domesticated living creature, including any stray or feral cat or dog, and a wild living creature

previously captured." The definition does not include an uncaptured wild living creature or livestock. The language can be interpreted to include pets that are often referred to as "other" in arrest records such as reptiles and birds that may also experience cruelty. In some states, animal cruelty laws often only protect domesticated dogs and cats. Alternatively, Section 42.09 (a)(5) Cruelty to Livestock Animals defines livestock as animals used for agricultural practices, animals raised for human consumption, and equines. The language under both sections are similar when distinguishing acts of animal cruelty; however, additional protections are provided to domestic animals. For example, both sections prohibit "torture" but Section 42.092 (b)(1) also prohibits individuals from killing an animal in a "cruel manner" or "causing serious bodily injury." As in many states, animal cruelty legislation in Texas clearly favors the lives of domestic animals compared to those of livestock.

Animal cruelty in Texas is classified as a misdemeanor or a felony depending on the crime committed. For instance, under Section 42.092 (b)(1), an individual who "tortures" or kills an animal in a "cruel manner" may be charged with a third-degree felony. In comparison, under Section 42.092 (b)(6), an individual may be charged with a misdemeanor if they caused "bodily injury to an animal" without the owner's permission. The language of the laws and the prosecution of animal cruelty offenses in Texas vary depending on the severity of the charges filed. In the example above, offenses under both Section 42.092 (b)(1) and 42.092 (b)(6) could result in the harm or death of an animal but are prosecuted differently and the level of charges fluctuate. The Texas Penal Code does have procedures in place to combat recidivism through increased charges for repeat offenders. If an offender has been convicted previously for animal cruelty under the same code, or in some instances a similar code, the charges may increase from

a misdemeanor to a felony or a third-degree felony to a second-degree felony depending on the severity of the abuse and the corresponding subsection.

Some states and local courts may assign court-ordered treatments including animal welfare education programs and mental health assessments in animal cruelty cases. Texas' approach has focused on the completion of responsible pet owner courses which can be completed online or at a municipal animal shelter (TEX. CODE OF CRIM. PROC. ANN. § 42A.511). Mental health evaluations or treatments are not an option available to prosecutors or judges unless the offender is a juvenile or has committed bestiality. Under Texas law, "counseling required" if animal cruelty is committed by a juvenile (TEX. FAM. CODE ANN. § 54.0407, 2007). Furthermore, offenders convicted of bestiality under Section 21.09, "may" be required to participate in "psychological counseling" or "treatment program" for a prescribed duration if the court determines treatment is appropriate for the offense committed (TEX. CODE OF CRIM. PROC. ANN. § 42A.511).

As evident in previous research (Newberry, 2015; Hardesty et al. 2013; Simmons, 2007; McDonald et al., 2015; Ascione, 1997), abusive partners use companion animals to control and manipulate domestic violence victims. The utilization of these tools often prevent or delay victims from seeking services or fleeing the situation for fear that the animal will be hurt or killed (Faver & Strand, 2003; Strand & Faver, 2005). Importantly, Texas has taken note of the significance of protecting people and animals by including pets, companion animals, and assistance animals in protection orders. Under Texas Family Code 85.022, the statute prohibits the offender from threatening and/or harming the animal as well as preventing the protected individual or a family member from providing care to the animals (TEX. FAM. CODE ANN. § 85.022, 2016).

Cross-reporting is an important element in reducing the co-occurrence of animal cruelty and interpersonal violence. Cross-reporting policies and laws authorize or permit agencies or actors to share information with one another. Cross-reporting is a collaborative reporting process between multiple agencies to ensure appropriate actions are taken to address public safety and animal and human welfare issues (Colorado LINK Project, 2013, para. 1). For example, laws can encourage animal welfare professionals to report suspicions of child maltreatment, and vice versa. This collaborative process would occur between animal welfare organizations, veterinarians, domestic violence organizations, child protection agencies, and adult protection agencies (Lunghofer, 2016). In Texas, the law does not include any provisions requiring cross reporting within agencies or with cooperating organizations. Opportunities to identify animal abuse and/or interpersonal violence are missed due to the lack of collaboration.

Problem Statement

Research has identified a significant relationship between animal abuse and interpersonal violence, also known as “the link” (National Link Coalition, n.d.). In response to increased recognition of “the link,” some states have amended legislation to redefine animal cruelty, strengthen current policy, and provide harsher punishment for animal abuse offenders. Even with this increase in animal cruelty legislation, arrests for animal cruelty offenses are limited, and tracking of animal abuse perpetrators to determine if animal cruelty is a reliable indicator of future interpersonal violence is needed. There is a lack of research following the status of animal cruelty offenses over time to determine if there is a higher probability of the offender committing domestic violence following animal cruelty arrest(s) compared to property offenders.

Richard and Reese (2019) evaluated animal abuse incident reports from 2007 to 2015 in the city of Detroit to determine if there is a significance between the relationship of the animal,

owner and/or offender, motivations, and method of abuse. This study's primary focus was on the animal cruelty incident and the relationship between the offender and the animal; the offenders' history of other offenses was secondary. Richard and Reese (2019) did not specifically provide an analysis of the offender's criminal history or engagement in interpersonal violence following the animal cruelty offense. In conjunction with the FBI's Behavior Analysis Unit, Levitt et al. (2016) reviewed the criminal histories of adult males charged with animal cruelty between 2004 and 2009. "The goal of this study was to examine official criminal records of individuals arrested for animal cruelty and determine whether particular predictable patterns emerged in terms of offenders' perpetration of physical violence, sexual abuse, or neglect against animals and against people" (Levitt et al., 2016). Both Richard and Reese (2019) and Levitt et al. (2016) used official criminal reports, police reports, or arrest reports to evaluate animal cruelty offenders.

Animal cruelty is challenging to prosecute, and many cases do not reach trial, resulting in a limited number of criminal cases (Kordzek, 2014). Disposed animal cruelty cases can reveal a link between animal cruelty and interpersonal violence through local law enforcement. This research used disposed cases and criminal histories to evaluate whether offenders charged for animal cruelty had an increased likelihood of a future domestic violence, one form of interpersonal violence.

Purpose of the Study

The purpose of this quantitative research was to examine the likelihood of animal cruelty offenders having future domestic violence offenses compared to a control group of offenders charged with property offenses through the review of disposed cases and criminal histories. Knowledge generated is expected to highlight the importance of animal abuse and interpersonal violence, ultimately leading to improved vigilance on the part of law enforcement responding to

animal cruelty incidents and increase the prosecution of animal cruelty cases within criminal courts. Additionally, this research could inform policy decisions that include the allocation of resources to support the arrest and prosecution of animal abusers. Due to the costs associated with the prosecution of animal cruelty cases, including medical expenses and housing, there is a need for additional funding to adequately prosecute these unique cases (Kordzek, 2014). Results of the current study will inform state and local policy and procedures regarding the possession of the animal(s) while charges are pursued.

Research Question and Hypotheses

What is the likelihood that perpetrators charged for animal cruelty will be charged with domestic violence following an initial animal cruelty offense?

H_0 : There will be no difference between individuals who are charged with animal cruelty and individuals charged with property offenses and the occurrence of domestic violence charges following the initial offense.

H_a: Individuals who are charged with animal cruelty initially will be more likely to have domestic violence charges following the animal cruelty charges compared to individuals initially charged with a property offense.

The goal of this research is to review offender criminal histories and disposed cases to identify the prevalence of domestic violence offenses following an animal cruelty offense or a property offense. The results of this study will provide a baseline regarding the temporal connection between animal abuse and future domestic violence arrests in a sample of offenders. Furthermore, this research will inform policy changes including the implementation of cross-reporting between government agencies, human service organizations, and animal welfare organizations as well as the allocation of funding to support these collaborative efforts. Through

the implementation of cross-reporting, increased communication and better detection could reduce the number of underreporting and unreported cases of both animal cruelty and domestic violence incidents (Balkin et al., 2019).

Theoretical Foundation

Violence graduation hypothesis has been used in research to evaluate the concept that "animal cruelty may be a form of rehearsal for human-directed violence" (Gullone, 2014, p. 39). The violence graduation hypothesis theorizes that individuals who are violent against animals will progress to violence against humans (Wright & Hensley, 2003).

Critics of Theory

The violence graduation hypothesis has been disputed by scholars who have supported the deviance generalization hypothesis with research suggesting that animal abuse is one of several antisocial behaviors (Arluke et al.,1999). Arluke et al. (1999) tested both the violence graduation and deviance generalization hypothesis. The study results did not find a sequential relationship between animal cruelty and future violence relating to the violence graduation hypothesis (Arluke et al.,1999). The results of Arluke et al. (1999) research supported the deviance generalization hypothesis. However, the researchers noted a limitation of the study included possible underrepresentation of animal abuse episodes preceding violent offenses as animal abuse cases may not have been reported to authorities (Arluke et al., 1999).

The deviance generalization hypothesis theorizes that animal cruelty is an aggressive behavior within the antisocial behavior spectrum and often co-occurs with other types of antisocial behaviors such as burglary, illicit drug use, and other violent crimes (Gullone, 2014). "Animal cruelty is an aggressive and violent behavior that cannot logically be separated from other aggressive and violent behaviors or indeed from other deviant behaviors" (Gullone, 2014,

p. 52). Literature has tested the deviance generalization theory to examine the co-occurrence of other antisocial behaviors and criminal behaviors in relation to animal abuse (Arluke et al.,1999; Levitt et al., 2016; Burchfield, 2016). While these studies have found evidence that suggests animal cruelty is one type of antisocial behavior, violence graduation hypothesis advocates state that the inclusion of "animal cruelty [as] a symptom of conduct disorder" in DSM-5 is in line with both hypotheses (Walters, 2013).

Rationale

The growing acknowledgment of the linkage between animal cruelty and interpersonal violence has led to some revisions to legislation (Pallotta, 2019; Phillips, 2014). Previous research criticizing the violence graduation hypothesis evaluated offenders and offenses prior to legislation changes and the increased familiarity with the linkage between interpersonal violence and animal cruelty. For the purposes of this study, violence graduation theory will be used to evaluate adults over a length of five years starting in 2014 by evaluating Texas animal cruelty legislation amended beginning in 2007. This research tested the hypothesis by reviewing the disposed cases of perpetrators charged with animal abuse and evaluated if those individuals had higher likelihood of future domestic violence offenses compared to individuals charged with property offenses. The intent of this research design was to determine if there was a statistically significant difference in the rates of future interpersonal offending when comparing two different groups of offenders.

Definitions

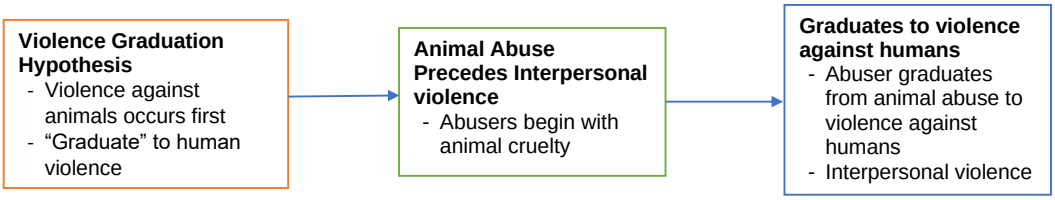
Animal Cruelty/Abuse: causing physical harming or killing an animal and/or the failure to provide food, shelter, water, and medical care for a period of time sufficient to cause harm to the animal.

Cross-reporting: the process of multi-agency and/or multidisciplinary information sharing and reporting of incidences regarding the occurrence of animal cruelty and interpersonal violence including domestic violence, sexual abuse, child abuse, and elderly abuse. Cross-reporting alerts other agencies of either animal abuse and/or interpersonal violence that has occurred within the home or reported to authorities.

Interpersonal violence: violence between individuals. The offender often has a relationship with the victim. Forms of interpersonal violence include domestic violence, child abuse, sexual abuse, and elderly abuse.

Property offenses: destruction of property. Property offenses includes arson, someone who starts a fire with the intent to cause damage or destroy property (Tex. Pen. Code 28.02); and criminal mischief, intentionally causing damage to property without the consent of the owner (Tex. Pen. Code 28.03).

Manipulation and control: the use of threats and/or direct physical harm by abusers toward the family pet(s) or domestic violence victim(s) and children to intimidate, control, and/or initiate fear.


Violence Graduation Hypothesis
- Violence against animals occurs first
- "Graduate" to human violence
Animal Abuse Precedes Interpersonal violence
- Abusers begin with animal cruelty
Graduates to violence against humans
- Abuser graduates from animal abuse to violence against humans
- Interpersonal violence

Assumptions

Before the research was conducted, the literature review revealed personal accounts from domestic violence victims during interviews or surveys that discussed the occurrence of animal cruelty and domestic violence incidents (Newberry, 2017; Simmons & Lehmann, 2007; Ascione, 1997). Based on the literature review, the researcher speculated the data would provide a clear picture that showed the relationship between animal cruelty and future domestic violence. The assumptions included the results would show animal cruelty offenders were more likely to have future domestic violence offenses and would be evident from the analysis of the data due to the body of literature identifying the use of animals to control and intimidate victims.

The research design allowed for these assumptions to be managed by including a control group of property offenders and comparing them against animal cruelty offenders. By including a control group, the data would identify if the likelihood of future domestic violence offenses by animal cruelty offenders was statistically significant or if property offenders were just as likely to engage in future domestic violence offenses.

Scope and Delimitations

The study was limited to animal cruelty offenses and property offenses that occurred in Texas. The location of this study was decided based on the researcher's geographic location as well as access to secondary data. The researcher was able to obtain data from the Texas Department of Public Safety (DPS) through an email request submitted to the Office of General Counsel regarding open records. The scope of the request included the offender's criminal history for offences prior to 2014 and 2015 as well as offenses following the animal cruelty and property offenses. The bulk data request to obtain the secondary data set for this research was

provided by the DPS and was obtained through the Criminal Justice Information System (CJIS) which is maintained in the Texas Computerized Criminal History System (CCH).

The bulk data request included animal cruelty and property offenses for the entire state of Texas which resulted in a large secondary data set. To ensure the manageability of the data due to time limitations of the research conducted and the staffing available to the researcher, a random sample was pulled from the population of the initial secondary data set. A power analysis was conducted to determine the necessary number of offenders needed at a small effect size.

Furthermore, the researcher did not request any juvenile records for the study. During the data cleaning process, if the offender was a juvenile at the time of the initial animal cruelty or property offense in 2014 or 2015, they were removed from the study and another offender was randomly selected in their place.

Limitations

Prosecutors experience several challenges in prosecuting animal cruelty cases including unusable or unsubstantial evidence, lack of communication and information from law enforcement, and the amount of time required for these types of cases (Lockwood et al., 2019). Prosecutors also described encountering monetary and logistic challenges when cases involved animal victims (Kordzek, 2014).

The issue of unreported cases is a limitation to the study. Like animal cruelty, interpersonal offenses such as child abuse and domestic violence are often under or unreported to law enforcement (Campbell et al., 2018): “Reported cases of domestic violence against women represent only a very small part of the problem” (Gracia, 2004, p. 536). Animal abuse offenders sometimes use the animals to control domestic violence victims. Manipulation may restrict

victims from seeking veterinary care for the animals (Hardesty et al., 2013) or fleeing domestic violence situations (Faver & Strand, 2003; Newberry, 2017; Fitzgerald et al., 2019), possibly leading to underreporting of animal and domestic abuse.

Originally the design of the study included a secondary data pull of disposed cases by the Dallas County Animal Cruelty Unit starting in 2014 when the County records went paperless. Several limitations arose from the initial design including staffing challenges within the department as well as concern for lack of comprehensive data after preliminary review. Ultimately the researcher widened the scope of the data pull to include the entire state of Texas through a bulk data request from DSP.

Initially, the research design included reviewing disposed cases of offenders with domestic violence offenses defined by Texas Family Code Section 71.004 and charged for assault under Texas Penal Code Section 22.01. After receiving the data from DPS, it was determined the initial design was unachievable as the coding did not clearly delineate between non-domestic violence and domestic violence offense charges. The discovery of the coding variances in domestic violence assault charges required the researcher to deviate from the original design and utilize the Domestic Violence Indicator in the data provided. The Domestic Violence Indicator is a field in the CCH system that is selected to identify a domestic violence offense. If the offense was associated with domestic violence, the field under the Domestic Violence Indicator showed a (Y) for yes or was left blank. However, an additional limitation to the study arose after reviewing the DPS CCH Data Dictionary (2019) which explained the Domestic Violence Indicator was not a mandatory field. Texas Code of Criminal Procedure, Chapter 66 details what information is required to be reported to the CCH system and the Domestic Violence Indicator is not listed as a mandatory field. This limitation potentially

reduced the number of domestic violence offenses identified and altered the scope of this research.

During the data cleaning process, the researcher encounter records that were incomplete. According to DPS, an analysis in 2019 found 96 percent of the arrests from 2013 to 2017 had reached final disposition in CCH. The agency acknowledged areas for improvement included reporting by local agencies and prosecutors to DPS and internal communication and cooperation at the county level (DPS, 2019). There is a possibility that missing information may have impacted the study.

Variations in animal cruelty and property offense codes, including newly implemented or expired offense codes, led to unexpected limitations. Each offense is assigned an offense code that correlates with the citation within the Texas Penal code, when the code began, and if the code ended. Accurately identifying the offense code associated with animal cruelty, property, and assault associated with domestic violence offenses created challenges as the researcher could not separate domestic violence from other family violence. Partially due to the changing codes, the researcher opted to utilize the Domestic Violence Indicator to conservatively identify domestic violence offenses and reduce the overrepresentation of these offenses. However, this could have reduced the number of animal cruelty or property offenders with future domestic violence offenses and potentially failed to capture these offenders.

The bulk data request to DPS resulted in a vast amount of data which became a limitation for the study. DPS provided the data in TXT files, which required the researcher to transfer the data into a system equipped to separate and analyze the data set. Finding a system that could accommodate the amount of space necessary to run a data analysis was a considerable challenge. The systems originally selected for the study could not adequately handle the amount of data

without significant manipulation. The size of the secondary data set, and required manipulation of the data, ultimately exposed the study data to human error at time of data entry and possibly altered the results of the study.

Significance

Simmons and Lehmann (2007) interviewed 1,283 women who sought assistance at a Texas domestic violence shelter between 1998 and 2002 who also owned a pet during the same time period. Of the 1,283 participants, 25 percent of the domestic violence victims reported the abuser also abused their pet (Simmons and Lehmann, 2007). Ascione (1997) found that 71 percent (n = 18) of interviewees reported that their pets were threatened or harmed by the abuser. A report by the Texas Department of Public Safety (n.d.) indicates there were a total of 212,885 family violence victims in 2018; 25.8 percent (female victims, n = 54,924) were abused by their intimate partners. The American Pet Products Association (n.d.) 2019-2020 pet ownership survey found that 67 percent (n = 84.9 million) of U.S. households own a pet. Extrapolating this rate of pet ownership to domestic violence victims would indicate approximately 36,799 of the victims in Texas in 2018 also owned a pet were rates of pet ownership in Texas equivalent to the national rate. Implementing the research by Simmons and Lehmann (2007) based on the assumption that the sample is representative of victimization rates in Texas, and Ascione (2017), it can be estimated that between 9,199 (25 percent) and 26,127 (71 percent) of pets were victimized.

The most significant reason for additional research in this area is the wellbeing and vulnerability of animals in domestic violence situations in addition to domestic violence victims. The prevalence of animal cruelty in households where domestic violence occurred has been researched through various means including firsthand accounts from victims and surveys (Strand

& Faver, 2005; Faver & Strand, 2003; Simmons & Lehmann, 2007; Ascione, 1997). Many of the victims explained how the relationship with their pet was exploited, and they were controlled and manipulated by the abuser (Hardesty et al., 2013; Newberry, 2017). Newberry (2017) found "the stronger the victim-animal bond the more likely it may be that the perpetrator will abuse a companion animal to control the victim." For government officials and local law enforcement to make necessary changes, it is crucial to understand the limitations of current reporting practices, the necessity of cross-reporting, and legislative revisions needed to support these efforts.

Summary

Animal cruelty is an important issue. Some law enforcement agencies, including the FBI, have begun to track these types of crime because a growing body of literature has indicated the significance of the crime with other types of offenses. The deviance generalization hypothesis suggests that animal cruelty is one of several antisocial behaviors that are committed by offenders. Current legislation in Texas does provide some protections for animals, however, the review of the law related to animal abuse in this chapter identified the gaps in protections for animals and domestic violence victims. The literature review will evaluate previous studies that have reviewed some form of the relationship between animal cruelty arrests and/or cases and the connection to each type of violence. Literature on "the link" will provide a comprehensive snapshot of various forms of interpersonal violence and how it relates to animal abuse.

Chapter 2: Literature Review

Statutes at the federal and state level provide the framework for animal cruelty legislation but regulations are still lacking regarding consistency, minimum standards, and execution of prosecution of animal cruelty offenses. The literature review evaluated the broad category of animal welfare including the link between interpersonal violence and animal abuse, challenges facing prosecutors, cross-reporting, and training. The literature review examined studies and articles regarding laws and the implementation of policy that included animal welfare and cross-reporting and emphasized the link between animal cruelty and interpersonal violence.

Literature Search Strategy

The strategy utilized to conduct the literature review included several words and/or phrasing variations related to animal abuse. Northeastern University's online library Scholar OneSearch was used to begin the literature review process. Databases utilized through OneSearch included SAGE Journals, Taylor & Francis Online, Nexis Uni, ClinicalKey, and HeinOnline. Specific journals surveyed for articles pertaining to this study included Journal of Interpersonal Violence, Child Abuse and Neglect, Deviant Behavior, Anthrozoös, Violence Against Women, and Society and Animals. Searches included animal maltreatment, animal cruelty, and animal abuse. The number of articles that discussed animal rights and welfare were numerable, which resulted in narrowing down the search even further.

Using word-specific searches, a gradual theme of animal cruelty and the association with interpersonal violence arose. The search produced literature that explored the relationship between interpersonal violence and animal abuse, sexual violence, other criminal behaviors. Additional themes, including childhood animal abuse, child exposure to violence, and the possible impact on adults exposed to violence as a child were other common themes encountered

during the literature search. Childhood animal maltreatment was excluded as it was beyond the scope of this research.

Exploring the combination of animal cruelty and interpersonal violence led to the much-researched topic of “the link.” The articles that appeared within this search provided references for related topics to “the link” and the four types of interpersonal violence. It was determined that there was a gap in research when searching for animal cruelty with criminal charges, plea bargains, closed cases, and arrest records.

Literature Review Related to Key Concepts and Variable

The literature review revealed that animal cruelty laws are still in need of revisions and review. Legislation is inconsistent from state to state and does not provide adequate protections for animals (ALDF, 2020a). Due to the significant link between interpersonal violence and animal abuse, the lack of cohesive legislation for addressing offenders puts society at risk for further violence. Prosecutors and the judicial system often lack the resources, such as time and adequate evidence, to hold offenders accountable (Kordzek, 2014; Lockwood et al., 2019). Research evaluating animal cruelty offenses, and the occurrence of other crimes such as interpersonal violence, is limited. This research sought to close this gap by reviewing disposed cases and criminal histories of animal cruelty offenders and evaluate the likelihood of future domestic violence offenses.

Interpersonal Violence and the Connection to Animal Abuse

Over several decades, research has shown the connection between animal abuse and interpersonal violence. Four categories of interpersonal violence identified in the literature include domestic violence, child abuse, sexual abuse, and elderly abuse. The following will

review several types of interpersonal violence, their connection to animal abuse, and examine the situations in which animal abuse occurs.

Animal abuse often occurs in conjunction with other forms of violence and criminal activity. Luke et al. (1997) tracked 153 people convicted of animal cruelty from 1975 to 1986 and found that 70 percent of those individuals also had "criminal records for violent, property, drug, or public disorder crimes." Supporting these findings, Arluke et al. (1999) found that animal abusers were 3.2 times more likely to have a criminal history compared to a control group. In another study, drug possession was the most common arrest by animal cruelty offenders prior to the animal cruelty incident with assault being the second most common (Levitt et al, 2016). Correspondingly, offenders with a record of drug offenses were more likely to engage in, or be involved in, dog fighting (Richard & Reese, 2019). Lockwood et al. (2019) found that animal cruelty cases were frequently prosecuted in conjunction with other crimes. Respondents to a national survey consisting of prosecuting attorneys reported animal abuse and inter-partner abuse (23.5%) and animal abuse and drugs (22.9%) charges were most often prosecuted together.

Research has identified a significant relationship between animal cruelty and violent crimes such as domestic violence, child abuse, sexual abuse, and elderly abuse (Peak et al., 2012; Simmons & Lehmann, 2007; McDonald et al., 2015). During violent interpersonal relationships, animals are often used as a tool to control victims and to retaliate against intimate or ex-intimate partners. Research has also found that a significant number of offenders who have abused a current or former intimate partner's pet have also been arrested for domestic violence (Levitt et al., 2016). Studies using surveys and interviews with domestic violence victims and shelter personnel have found that abusers use animals to intimidate and maintain control (Simmons

&Lehmann, 2007) over victims by threatening, beating, or killing the family pet (Ascione, Weber, & Wood, 1997, Fitzgerald et al., 2019; Hardesty et al. 2013; Strand & Faver, 2005; Faver & Strand, 2003). Tactics such as physical threats, emotional abuse, and neglect are forms of animal abuse used to alter victims' behavior (Fitzgerald et al., 2019; Hardesty et al. 2013). Over time, the abuse toward the animal and the victim escalates into more severe forms of violence (Fitzgerald et al., 2019). Due to manipulation, threats, and/or physical harm toward the family pet and inadequate accommodations for domestic violence victims and their pets, many victims delay seeking shelter and stay in the relationship as they are concerned for the safety of their pet if they were to leave (Krienert et al., 2012; Ascione, Weber, & Wood, 1997, Fitzgerald et al., 2019, Ascione, 1997). For example, a survey of 767 responding domestic violence shelters serving an average of 480 clients over a six months span, found that 94 percent of respondents were informed by victims that the safety of their pets was a factor for the delay in seeking shelter from a domestic violence situation (Krienert et al., 2012). Of victims who left domestic violence situations without their pet(s), these victims often returned to their abuser after receiving threats that if the victim did not return the pet would be harmed (Newberry, 2017). Interpersonal violence practitioners and community agencies also reported a lack of access to safe housing for both the domestic violence victim and their pet(s) created a limitation for accessing services (Hageman et al., 2018). Limited accommodations for victims while in the shelter and post-shelter housing created additional challenges in keeping victims and their animals safe (Hageman et al., 2018). Victims reported a lack of services for domestic violence victims with pets as a deterrent for removing themselves from violence situations and causing them to stay in an abusive environment (Newberry, 2017).

Interpersonal violence includes child abuse, sexual abuse, and elderly abuse. Like domestic violence, animal abuse is used as a form of control in elderly abuse. A research study conducted by the Humane Society of the United States (HSUS) and the National Center on Elder Abuse (NCEA) found that "more than 35 percent of respondents reported that clients seen by Adult Protective Services talk about pets having been threatened, injured, killed or denied care by caregiver" (Raymond, 2003, p. 86). Research evaluating the co-occurrence of elderly abuse and animal abuse is limited, and more research is needed in this area.

Research has also revealed a relationship between family violence and animal cruelty (DeGue & DiLillo, 2009). In a survey consisting of 860 college students, 22.9 percent of the overall population reported exposure to animal cruelty and 49.4 percent reported experiencing family violence during their childhood (DeGue & DiLillo, 2009). The relationship between animal abuse, domestic violence, and child abuse showcases the co-occurrence between the violence behaviors, specifically through the uses of manipulation. The Child Abuse Prevention and Treatment Act (2010) defines child abuse as "any recent act or failure to act on the part of a parent or caretaker, which results in death, serious physical or emotional harm, sexual abuse or exploitation … or an act or failure to act which presents an imminent risk of serious harm." Child abuse has been recognized as a form of interpersonal violence and research has identified the co-occurrence with animal abuse (McDonald et al., 2015; DeViney, Dickert, & Lockwood, 1983; DeGue & DiLillo, 2009). Children suffer from emotional harm when exposed to animal cruelty, often during domestic violence incidents. McDonald et al. (2015) interviewed 58 children, ranging from age seven years to twelve years, to determine the prevalence and impact of animal abuse in homes where domestic violence co-occurred. One theme uncovered was the use of manipulation and intimidation by offenders to control and emotionally hurt children in the home

(McDonald et al., 2015). “Approximately 38 percent of children in the current study indicated that someone had hurt or killed their pet, 27 percent reported someone had threatened to harm/kill their pet” (McDonald et al., 2015, p.120). As a result of the potential and/or actual threat to the pet in the home, 78 percent of the children in the study reported taking action to protect the pet and/or intervening during an animal cruelty incident to protect their pet (McDonald et al., 2015).

Companion animals, namely dogs and cats, are the most common victims of animal cruelty that results in arrest. In addition to domesticated animals, animal abusers also target birds, farm animals, and wild animals (Tallichet & Hensely, 2007). Reptiles and fish have also been victims of abuse (Levitt et al., 2016). Research has identified that specific “situational factors [contribute] to cruelty events” (Grugan, 2018, p. 1153). After reviewing theoretical and empirical articles, Grugan (2018) categorized the types of companion animal cruelty exhibited by abusers into four groups: discrete, passive, organized, and peripheral cruelty. Grugan (2018) found that most (45.3%, n = 81) companion animal cruelty situations were discrete cruelty; the acts of cruelty were spontaneous and one-time occurrences. Cases of passive animal cruelty included the lack of adequate food and water as well as a lack of access to shelter and veterinary care (Levitt et al., 2016). Grugan (2018) reported the second most common type of cruelty found in the study was passive (41.3%, n =74). Gerbasi (2004) identified neglect/abandonment as the most common type of abuse by both male and female offenders. After reviewing the various types of cruelty, Grugan (2018) observed that the path to cruelty is complex and no two animal cruelty situations are the same. “Companion animal cruelty seems to involve unique and distinct manifestations of violence which align more closely to other forms of human on human violence than the instrumental exploitation of animals by human society” (Grugan, 2018, p. 1166).

Prior research examining interpersonal violence offenders revealed these offenders often had a history of interpersonal violence and often engaged in active animal cruelty. Febres et al. (2014) surveyed male offenders in a batterer intervention program and found 41 percent of the participants had committed at least one animal cruelty act as an adult. In a different study, first-responders utilizing a domestic violence officer information sheet in Marian County, Indiana found that 80 percent of interpersonal violence offenders with a reported of history of animal abuse also had at least one unreported interpersonal violence incident (Campbell et al., 2018). Active animal cruelty, including hitting, kicking, and stabbing, were used as a motive to hurt or intimidate another person, often an intimate partner (Richard & Reese, 2019). Levitt et. al (2016) found that, of the offenders who had been arrested for active animal cruelty, 58 percent (n = 38) also had arrests for interpersonal violence. Furthermore, the study found a statistically significant relationship between offenders who engaged in active animal cruelty and a future interpersonal violence arrest (Levitt et al., 2016).

First person accounts from domestic violence victims have provided a bountiful body of literature linking animal cruelty to interpersonal violence qualitatively. A growing number of studies have taken a different approach by evaluating various types of criminal and court documents within communities and cities to broaden the understanding of animal cruelty offenders (Burchfield, 2016; Levitt et al, 2016; Richard & Reese, 2019; White & Quick, 2019; Burchfield, 2018). The type of crimes against animals are more often cases of abuse and neglect (Burchfield, 2016; Burchfield, 2018) and occur at personal residences (Burchfield, 2016). Incidence of animal fighting had a higher likelihood of occurring in neighborhoods with higher violent crime rates (Burchfield, 2016). In evaluating the occurrence of animal cruelty and concurrent human violence crimes, Burchfield (2018) found that less than 10 percent of

offenders charged with animal cruelty were also arrested for violent offenses. Conversely, Levitt et al. (2016) found that 31 percent of animal cruelty offenders had prior assault arrests and 16 percent were arrested for assault following the animal cruelty incident. The evaluation of animal cruelty incidents and police reports in Detroit revealed assault as the most frequent other criminal record for animal cruelty perpetrators (Richard & Reese, 2019). Motivations of these perpetrators in committing animal cruelty were to hurt or intimidated an intimate partner (Richard & Reese, 2019). Measuring the social disorganization of neighborhoods in Virginia Beach, which includes economic disadvantages and family disruption, White and Quick (2019) found animal cruelty violations correlated with aggravated domestic assault rather than simple domestic assault. The results of these various studies reveal patterns of criminal offending among samples of animal maltreatment offenders.

Cross-reporting and Training Improvements

Some state and local governments have implemented policy and legislation to hold animal abuse offenders accountable for their actions. However, there is still a gap in knowledge regarding the relationship between of animal cruelty and interpersonal violence within community stakeholders. This section of the literature review identifies the lack of cross-reporting requirements in many jurisdictions and limited education among interpersonal violence personnel, law enforcement, and veterinarians about the importance of animal cruelty among some law enforcement and human services personnel.

Animal cruelty policies have progressed over time and criminalization of animal cruelty has been strengthened in some states. Legislation regarding animal cruelty has been strengthened in recent years although research and animal law scholars have indicated more is still needed including educating stakeholders about “the link” and implementation of cross reporting

procedures (Long & Kulkarni, 2013; DeGue & DiLillo, 2009; McHendrix, 2010). Research has identified a disconnect between human protective services and animal welfare organizations as they continue to operate separately (Long & Kulkarni, 2013). The lack of cross-reporting between agencies has a detrimental impact on communities when animal cruelty and interpersonal violence is viewed as unrelated (Long & Kulkarni, 2013). Interpersonal violence practitioners and community agencies require additional training regarding the relationship between animal cruelty and domestic violence (Ascione, 1997). Hageman et al. (2018) conducted three focus groups consisting of victim advocates and program directors to discover challenges in providing services and supporting victims of interpersonal violence. The study found there was a lack of consistency in screening for pets at emergency shelters and a need for additional training for staff regarding the impacts of animal abuse on interpersonal violence victims (Hageman et al., 2018). Victims reported a lack of empathy and understanding from law enforcement regarding the presence of animal cruelty (Newberry, 2017). When domestic violence victims reported acts or threats of animal cruelty by the abuser, victims described law enforcement as sometimes being dismissive (Newberry, 2017). There is a need to educate law enforcement, interpersonal violence practitioners, healthcare specialists, animal welfare organizations, prosecutors, and judges about "the link," key indicators and red flags of abuse, and appropriate reporting procedures when abuse has been identified (Ascione, 1997; Hageman et al., 2018; DeGue & DilLillo, 2009).

Professionals in fields related to animal welfare also require additional education when directly dealing with animal cruelty offenses. "Veterinary pathologists must develop a leadership role in the emerging discipline of veterinary forensic pathology and take advantage of upcoming educational opportunities to develop additional expertise in this important area of veterinary

pathology" (McDonough et al., 2015, p. 5). To prosecute animal cruelty cases thoroughly, prosecuting attorneys require well-documented veterinary medical reports, detailed pictures of the abused animals' injuries, and clear expert witness testimony (Lockwood et al., 2019). The work of veterinary forensic pathologists impact pending animal cruelty charges and criminal cases; however, many feel ill prepared for these types of cases and express a need for more training (McEwen & McDonough, 2016). Attending court and acting as a key witness is a concern for some veterinary pathologists because they feel they lack the necessary knowledge to be an expert witness (McEwen & McDonough, 2016). McDonough and colleagues' study identified several reservations reported by veterinary pathologists that increase their unwillingness to accept forensic necropsy cases. Veterinary pathologists reported animal cruelty cases are labor intensive and require thorough documentation which is daunting and time consuming (McDonough et al., 2015). Furthermore, veterinary pathologists reported feeling frustrated with the amount of time and work required for animal cruelty cases only to see charges dropped or reduced (McDonough et al., 2015). In a separate study by McEwen and McDonough (2016), a quarter (25%) of veterinary pathologist survey respondents also reported that animal abuse cases were time consuming. Respondents also felt they did not receive adequate information from investigators to determine manner of death. Veterinary pathology is a critical component to successfully prosecute animal abuse cases, and as research has indicated, there is a large gap in education and training within the field and across disciplines.

Challenges of Prosecuting Animal Cruelty Offenses

Evaluation of animal cruelty cases within the court system is essential as it relates to the prosecution of animal cruelty arrests. While the progress in policy and legislation has been positive, prosecutors face challenges while prosecuting animal cruelty offenders. This section of

the literature review provides a snapshot of the larger challenges facing animal cruelty prosecution.

Prosecuting attorneys experience numerous challenges in the prosecution of animal abuse cases. Kordzek (2014) conducted in-person interviews with 19 New York state prosecutors regarding animal cruelty statutes to evaluate decision-making and experiences regarding lower level animal cruelty cases. The study identified several challenges, limitations, and causes for limited prosecution of animal cruelty cases. Animal abuse cases are different from other low-level cases; these cases require more resources, such as time and buy-in from various parties, and sometimes reflect a lack of understanding and/or a need for education regarding step-by-step protocols within law enforcement (Kordzek, 2014). Prosecutors described encountering monetary and logistic challenges when cases involved animal victims; additional expenses were partly due to the cost of caring for animals while offenders awaited trial (Kordzek, 2014). Almost half of participating prosecutors reported a lack of education pertaining to animal cruelty laws and procedures by law enforcement, defense attorneys, and justices of the peace (Kordzek, 2014). "A majority of prosecutors noted problems with the law and system response including vague statutory terminology, the absence of adequate sanctions, and both a lack of resources and cooperation from other criminal justice actors" (Kordzek, 2014, p. 620). Lockwood et al. (2019) surveyed 200 prosecuting attorneys and found similar responses to Kordzek (2014). Survey respondents highlighted animal cruelty laws, "the link," and veterinary forensics as areas requiring additional training for those involved "in the investigation, documentation, and prosecution of animal cruelty cases" (Lockwood et al., 2019).

An underlying cause for the challenges that prosecutors experience is the language within legislation classifying animals as personal property (Pallotta, 2019; Gacek & Jochelson, 2020).

Suggestions by researchers have included redefining the legal status of animals as perception, cultural norms, and relationships with animals within families place them above property status (Pallotta, 2019; Gacek & Jochelson, 2020). Conceptualizing animals as property devalues the relationship humans' posses with their companion animals.

Summary and Conclusions

The various animal cruelty policies and procedures protecting animals in the United States are fragmented and put animals and society at jeopardy by failing to respond with consistent seriousness to incidents of animal abuse. The literature review addressed the significance of the connection between animal abuse and interpersonal violence. The literature identified prevalence of animal abuse in domestic violence relationships but identified a gap in research reviewing animal abuse arrests and court cases and the impact or lack of impact on interpersonal violence situations. Research discussed the recommendations for cross-reporting due to the significance of "the link." The literature identified a need for cross-reporting between animal and human welfare organizations and government agencies, however, there appears to be limited progress in the implementation of cross-reporting mandates and an absence in practice (ALDF, 2020a).

The framework currently in place for prosecuting animal cruelty results in challenges for prosecutors. Several studies recognized a deficiency in resources and education among interpersonal violence personnel, law enforcement, and veterinarians, about the significance of "the link." This research evaluated individuals charged with animal abuse and compared them to a group of property offenders to determine whether the animal cruelty group would be more likely to engage in future domestic violence.

Chapter 3: Methodology

The purpose of this quantitative research was to examine whether individuals who were charged for animal cruelty had a higher likelihood of future domestic violence charges compared to offenders charged with property offenses through the review of offender disposed cases and criminal histories. This study used a secondary data set extracted from the Texas Department of Public Safety for the entire state of Texas to evaluate the future domestic violence occurrences of animal cruelty and property offenders. Due to the size of the data extraction and population, a sample (n =414) of offenders were randomly selected. Logistic analysis calculated the likelihood of future domestic violence offenses.

Research Design and Rationale

A notable amount of past research has utilized qualitative methods including surveys, discourse analysis, and interviews to examine the relationship between animal abuse and interpersonal violence (Ascione, 1997; Simmons & Lehmann, 2007; Newberry, 2017; McDonald et al., 2015; Hardesty et al. 2013). Limited research has utilized quantitative analysis to evaluate the association between animal abuse and interpersonal violence (Febres et al., 2014; Richard & Reese, 2019; Levitt et al., 2016). To test the likelihood of animal cruelty offenders engaging in future domestic violence, the researcher conducted a quantitative study to compare two groups of offenders, animal cruelty and property offenders. This study tested the likelihood of future domestic violence offenses by evaluating a secondary data set consisting of disposed cases and criminal histories. Creswell (2014) defines quantitative research as “an approach for testing objective theories by examining the relationship among variables.” The study consisted of a non-experimental design, and individuals were randomly selected from a larger secondary data set; specific parameters were defined and used for the secondary analysis. “Secondary analysis is

best known as a methodology for doing research using pre-existing statistical data" (Heaton, 2004).

Several studies have used criminal data including criminal histories, arrest reports, criminal incidents, and police reports to examine animal cruelty offenders, communities where animal cruelty had occurred, and the events surrounding animal cruelty offenses in a few cities and states (Burchfield, 2016; Levitt et al., 2016; Richard & Reese, 2019; White & Quick, 2019). These studies were also quantitative, providing a statistical analysis of preexisting data. The researcher determined analysis of a secondary data set consisting of disposed cases and criminal histories would enrich the current body of literature and further investigate the likelihood of animal cruelty and future domestic violence.

This study tested the violence graduation hypothesis to explore the likelihood that a domestic violence offense would follow the initial animal cruelty or property offense. The theory discussed, "individuals gradually increase the amount of destruction to fully gain the satisfaction of venting their frustration. Therefore, they eventually graduate from violence against animals to violence against humans" (Wright & Hensley, 2003, p. 83). This research sought to test the theory and hypotheses to determine if the data will show a higher likelihood of animal cruelty offenders having future domestic violence offenses, or if individuals who engage in property offenses are just as likely to engage in domestic violence as those who committed animal cruelty offenses.

Methodology

This study conducted a secondary analysis of a preexisting data set. A formal data-sharing arrangement was made with DPS to ensure the best possible data analysis while maintaining independence from outside influencers (Heaton, 2004). Two comparison groups

were selected and evaluated after an outcome period of up to five years by reviewing disposed cases and the offender's criminal history for animal abuse offenses and future domestic violence offenses. The study evaluated the disposed cases of offenders charged for animal cruelty in 2014 and 2015, tracking if the offender was later charged for domestic violence offenses through December 31, 2019. In addition, the researcher also evaluated the offender's criminal history to identify if domestic violence had occurred before the 2014 and 2015 offense. As a control, offenders charged for property offenses in 2014 and 2015 were tracked through December 31, 2019, to determine if any domestic violence offenses occurred during the timeframe.

Positionality Statement

The topic of animal abuse is a social issue that should be evaluated to ensure the safety of animals and people. Current animal cruelty laws throughout the country do not adequately protect animals and possibly people simultaneously (Luke et al., 1997). As an animal owner and animal welfare advocate, I have become concerned with the connection of animal abuse with interpersonal violence. Due to the connection identified in established research and the recognition of animals' capacity for suffering, I believe animal abusers must be held accountable for their actions. The current judicial structure inhibits prosecution and prosecutors are frequently ill-equipped to handle the complexities of animal abuse cases (Kordzek, 2014). There is a dearth of research examining disposed cases of offenders who engaged in animal cruelty and interpersonal violence.

"Subjectivity refers to individual meaning, perception, and feeling" (Mathison, 2005). As an experienced internal program evaluator, it was essential to continually check for bias while evaluating data. Through the use of disposed cases and criminal histories, as a researcher, I was

able to effectively and subjectively review the data and report my findings and I frequently reviewed my findings as well as sought the review of others to identify any potential bias.

Population Selection

The population for this research were offenders who were arrested for animal cruelty or property offenses in Texas between 2014 and 2015. Texas was selected for the study based on the size of the population and access to disposed cases and criminal histories. The estimated population for Texas in 2018 was 28,701,845 (United States Census Bureau, 2019). There were approximately 1,776 animal cruelty offenses in 2014 and 2015 that resulted in charges and 20,614 property offenses. Utilizing the Domestic Violence Indicator, there were approximately 62,942 domestic violence offenses between January 2, 2014 and December 31, 2019 that resulted in charges.

This study examined data collected by DPS and housed within the CCH system in which disposed cases and criminal histories of animal cruelty and property offenders were analyzed. Disposed cases included adult males who were arrested for animal cruelty between 2014 and 2015 with no prior criminal history of domestic violence. The control group included adult males who were arrested for property offenses between 2014 and 2015 with no prior criminal history of domestic violence or animal abuse. The study controlled for age and gender. Offenders under the age of 18 at the time of the initial animal cruelty or property offense were excluded from the study as were female offenders. Offenders included in the study were charged for offenses related to animal cruelty under Texas Penal Code Sec. 42.09 (Cruelty to Livestock Animals), Sec. 42.091 (Attack on Assistance Animal), Sec. 42.092 (Cruelty to Nonlivestock Animals), Sec. 42.10 (Dog Fighting), and Sec. 42.105 (Cockfighting). Additionally, the researcher requested disposed cases and criminal histories of

offenders charged under Texas Penal Code 28.02 (Arson), 28.03 (Criminal Mischief) and 28.04 (Reckless Damage or Destruction).

The Texas Penal Codes were evaluated to identify the animal cruelty offense codes for this study. All five animal cruelty related offenses under Texas Penal Code Chapter 42 listed above were included in the study. Prior research found cruelty toward animals extended beyond domesticated animals and included farm animals and wildlife (Tallichet et al., 2005). Tallichet et al. (2005) also found animal abusers tended to abuse a specific type of animal exclusively. Bestiality was not included in the study as the act of sexual abuse against an animal was not illegal and punishable under Texas state law until September 1, 2017 (Tex. Pen. Code § 21.09).

Animals are often identified as property in the eyes of the law (Pallotta, 2019; Gacek & Jochelson, 2020) which devalues the relationship humans' posses with their companion animals. As such, property offenders were selected as the control group to evaluate the likelihood of future domestic violence offenses compared to animal property offenses. Additionally, previous research identified property offenses as another form of antisocial act associated with the deviance generalization hypothesis (Arluke et al., 1999; Burchfield, 2016). The property offense codes listed under Texas Penal Code Chapter 28 were selected to provide an ample range of property offenses.

For the purposes of this study, female offenders were omitted from the analysis as research has suggested males are statistically more likely to be have abused animals (Gerbasi, 2004; Burchfield, 2018, Arluke et al., 1999; Richard & Reese, 2019). Additionally, as this research sought to examine the future incidents of domestic violence, the researcher controlled for gender as research has found higher rates of domestic violence offenses are committed by

males (Truman & Morgan, 2014). Lastly, the study focused on adult offenders due to the challenges associated with accessing juvenile records.

An a priori power analysis was conducted using the online computing system, Wolfram|Alpha, to determine the sample size necessary to eliminate a false effect of causality from the analysis. The total population of offenders received within the initial data pull (n = 2,393,710) and the total possible domestic violence offenders (n = 52,621), were utilized for the statistical power analysis in comparing two independent variables (animal cruelty and property offenders) and one dependent variable (domestic violence). Calculating for Cohen's h small effect size (f_2 =.02) at $p < .05$ and a statistical power of .8, resulted in 414 observations required to achieve statistical power.

Procedures for Access to Data

The researcher obtained approval from Northeastern University's Internal Review Board (IRB) to conduct the study using preexisting data on February 25, 2020.

A significant component of the study was the full criminal histories of animal cruelty and property offenders. The researcher submitted a bulk data request through the Texas Department of Public Safety (DPS) to obtain this information. Prior to the bulk data request, the researcher communicated with staff at DPS to determine if there were internal requirements the researcher was required to complete and adhere to specific research parameters dictated by the State. The researcher was required to answer several questions to determine if the research qualified as university research and what precautions would be taken by the researcher to ensure offender information confidentiality. DPS granted the researcher approval for the study on February 14, 2020. To ensure the researcher was compliant with IRB requirements, the bulk data extraction

request was not submitted to DPS until March 16, 2020, after the researcher was granted IRB approval for the study.

The data extraction was completed on April 2, 2020 and uploaded by DPS to CJIS. To securely receive the secondary data set from DPS, the researcher was required to apply for a CJIS account to access the portal. The researcher accessed the data within the CJIS portal the same day and downloaded the TXT files directly to their personal computer. After the TXT files were downloaded to the researcher's computer, the data cleaning and analysis was initiated.

Confidentiality and protection of offender personal information and criminal histories were considered at each phase of the study. Prior to the transfer from the online portal to the researcher's computer, desktop sharing tools such as OneDrive were turned off to prevent data from being shared over unsecure networks. Additionally, a clearly labeled folder (Research – TX data) was used to store the data directly on the desktop computer. During the data cleaning process and analysis, the online content management system Box was used to share Excel spreadsheets with the advising committee. Only deidentified data was shared with recipients directly working on the study through Box.

Consent was not necessary and was not obtained from individuals based on the structure of the study which utilized retrospective evaluation of existing data to conduct a secondary analysis. The data for this study was obtained from disposed cases and criminal histories through CCH which are public record and available in Texas. Criminal histories within the State are public record in Texas through DPS. A member from the public with an offender's name and date of birth can search and/or request their criminal histories.

As per Northeastern University's research policy, the data for the study will be destroyed five years following the completion of the study. The researcher will utilize data deletion

software east-tec Eraser to delete files from the researcher's computer. The software removes files from the desktop and hard drive of the computer.

Data Collection

The researcher provided DPS with the following parameters using Texas Statues for the bulk data request:

- Animal cruelty offenders – Sec. 42.092. Cruelty to Nonlivestock Animals; Sec. 42.10. Dog Fighting; Sec. 42.09. Cruelty to a livestock animal; Sec. 42.091. Cruelty to an assistance animal; and Sec. 42.105. Cockfighting
- Property offenders – Sec. 28.02. Arson; Sec. 28.03 Criminal Mischief; and Sec. 28.04 Reckless Damage or Destruction
- Offenses that occurred between January 2014 and December 2019
- 18 years of age or older
- Male and Female (female offenders eliminated a priori)

The data was obtained from DPS through the CCH system and downloaded from the CJIS portal. The system used State Identification Numbers (SID) to conduct the search through CCH. SINs are a unique individual identifier used by the state to track offenders. The list of SIDs ran through a query to pull the entire Texas Criminal History for that SID. The data was then extracted and was uploaded to the CJIS portal in TXT file format. To acquire the data safely and securely, the researcher was required to apply for a CJIS Portal account.

The records for all offenders with an animal cruelty and property offense between January 1, 2014 and December 31, 2019, as well as each offender's criminal history, was requested from the DPS. The data extraction included all offenses during the timeframe requested and their full criminal histories in Texas. DPS split the data into four folders, each containing several TXT files, for a total of 26 TXT files provided by the State.

The data was provided in Fixed Length TXT files which resulted in strings of numbers and letters compounded together. Microsoft Excel was used to separate the data into a usable format for analysis. Due to the size and amount of data housed in each TXT file, the researcher

was unable to upload the files directly into Excel. Each file was manually copied and pasted into Excel workbooks. The first number of each line represented a record type then followed by the offender's SIN. The State's CCH system assigns the respective data one of seven record numbers base on the type of record: (1) identification, (2) identification supplement, (3) arrest, (4) prosecution, (5) court, (6) court supplement, and (7) custody. To prevent human error during the copy and paste process, the researcher would begin copying at record (1) and copy all the way through until the last record for each offender and then repeat the process for the next set of records. During this process, the researcher continuously assessed the records, noting where the last set of records left off and where the new set began. Additionally, the research saved after each section was copied over to the Excel spreadsheet. Once the TXT file was fully copied into the Excel file, the records were sorted numerically and moved to an Excel file for each record type 1 through 7. After the completion of this step, it was determined that more than 40 million rows of data were extracted from the system for this research.

The next step in the data cleaning process included delimiting the data, converting the series of data points into a readable format. Clean, undelimited Excel files were uploaded to a new Excel workbook and the Transform Data function was used to delimit the data. The document, CJPC Return Formats102019.xlsx provided by DPS, detailed the position where to split each line of data. In order to use the information in the document for this research, a formula (=POS-1) was used to manipulate delimit positions provided as the Excel position starts at (0) and the position in the document began at (1). Once the position of the delimiter was corrected for the software used in this research, the positions were copied and pasted as "keep text only" into Microsoft Word in order to create a usable list separated by commas which was required for the Split Column by Position function. The Split Column by Position function

enabled the researcher to delimit the data and create readable workbooks for each record type, the process was completed for Records 1 through 7. The Excel workbooks resulting from this process were used for the data analysis to sort and identify the animal cruelty and property offenders for this research.

Court dispositions were represented by Record Type 5. These records consisted of the court dispositions for charges filed and were selected to conduct the data analysis. The selection of Record Type 5 was due to challenges associated with charge bargaining, the process of negotiations between prosecutors and defendants, where in defendants have the option to reduce the initial charges by accepting a plea bargain for a lesser charge (Devers, 2011). The process to identify the offenses specifically related to animal cruelty and property offenses within the data extraction required the researcher to utilize the document titled FullOffenseCodeListnew.xlsx, an Excel workbook detailing the citations and associated offense codes provided by the State. Each offense had been assigned a code listed under the Court Offense Numeric column in Record Type 5. The codes were assessed, and color coordinated by offense type for filtering capabilities within Excel; animal cruelty was assigned green while property offenses were assigned orange (see Appendix B).

In order to facilitate the analysis of the data for the logistic regression, the researcher needed to extract the animal cruelty and property offenders from the larger Excel workbooks. The VLOOKUP function was employed to identify offenders by court offenses specific to animal cruelty or property offenses. The utilization of the VLOOKUP function was completed for each group, resulting in new workbooks specific to each offense type (animal cruelty and property offenses). The offense specific workbooks were utilized for the data analysis process and a priori random sample.

Following the compilation of animal cruelty and property offenders, the researcher collected the domestic violence data. A critical component of this research included the presence of previous offenses in the offenders' criminal histories; the data analysis was to only include offenders without prior domestic violence offenses. Before the data was received, the intention was to assess offenders' criminal history for prior domestic violence offenses by searching for offenses under Tex. Penal Code § 22.01 (1973), specifically offenses associated with Tex. Family Code § 71.0021 (2001). However, after reviewing the data extraction, it was determined that the inclusion of all offenses under Tex. Penal Code § 22.01 (1973) would result in inaccurate results as the charges under this Penal Code acts as an umbrella for several assaultive offenses and the data did not provide a clear path to delineate between the multiple offenses housed under Tex. Penal Code § 22.01 (1973). After reviewing the data to determine the most appropriate method for identifying domestic violence offenses, it was determined the Domestic Violence Indicator column was the best system for data collection. The Domestic Violence Indicator is a field in the CCH system that is selected to identify a domestic violence offense. The researcher was able to filter the column (Y or blank) in Record 5 to accumulate clearly identifiable domestic violence offenses. A new workbook with all domestic violence offenses was created to conduct the final stages of data collection and sorting.

Each workbook containing the specific group of offenders was sorted by Date of Arrest to extract offenses in 2014 and 2015. A new worksheet within the correlating offense workbook was created titled 2014 and 2015 Offenses. The researcher copied the SINs and placed them into a new worksheet titled Sample Selection. Here the offenses were deduplicated to find the specific offenders in 2014 and 2015, as some offenders had multiple dispositions during the same event or multiple offenses within the timeframe for this study. After the list was

deduplicated, another VLOOPUP was utilized to check for domestic violence offenses prior to January 1, 2014. Offenders with previous domestic violence offenses identified by the domestic violence indicator were deleted from the Sample Selection worksheet. Additionally, a VLOOKUP was utilized to identify offenders with domestic violence offenses between January 1, 2014 and December 31, 2015. Record 5 domestic violence offenses and animal cruelty offenses during the same duration were copied and pasted into a new worksheet titled Sample Selection – DV offenses. The data was sorted by SIN and evaluated to determine if the domestic violence offense occurred before or after the animal cruelty offense. If the domestic violence offense occurred prior to the animal cruelty offense, the offender was removed from the Sample Selection worksheet. If the offense occurred on the same day as the animal offense, the researcher concluded this was not a separate incident and the offender was removed from the Sample Selection. This process was repeated for property offenders; however, property offenders were also evaluated for prior animal cruelty offenses. Once both Sample Selection worksheets were completed, the researcher developed a process to randomly select 207 offenders from each group based on the power analysis for effect size.

Within the Sample Selection worksheet for both animal cruelty and property offenders, the RAND () function was employed to generate a random sample for this study. Calculated in column B, function (=RAND ()) was populated and copied beside each SIN. The random values were then copied and pasted as a value to prevent the codes from continuously changing. The researcher sorted the RAND () codes from smallest to largest code and selected the first 207 SINs to become the random sample for this study. This process was completed for both offender groups (animal cruelty and property offenders for a total n=414). Following the selection of the random sample, each SIN was searched within Record 1 to obtain the offender's demographics.

The associated offenses under the offender, animal cruelty or property offense, and any following domestic violence offenses, were copied and pasted to a single row for each offender. During this process, if the offender was determined to be a juvenile for the initial offense, the offender was removed from the sample and replaced with next RAND () number. Once this process was completed, offender SINs were replaced with a simple identifier (1 through 414) and the compiled data was saved in a new workbook titled, Data Analysis – Final, for analysis.

Data Analysis Plan

Two comparison groups were created based on the preexisting data. Group A was animal cruelty offenders that did not have a history of domestic violence. Group B was property offenders with no history of domestic violence or animal abuse. The research assessed both groups from 2014 and 2015. Using the preexisting data, both groups were tracked to determine if domestic violence charges occurred within the five-year outcome period, concluding December 31, 2019.

IBM SPSS Statistics 26, Stata, and Excel were used to perform the statistical analysis. A range of descriptive analysis of the independent and dependent variables were conducted to calculate the population mean and standard deviation. Crosstabulations evaluated and organized the variables to enrich the analysis of the population and frequencies calculated the number of variable observations in the population.

“Logistic regression is a predictive analysis where a model is tested to find out whether the value of one variable, or the combination of values of multiple variables, can predict the value of another variable” (Frey, 2018, p. 2). Logistic regression, which is a specific form of Generalized Linear Model, was performed to obtain an understanding of how the independent variables (animal cruelty and property offenses) affected the dependent variable (domestic

violence). The predictive variable, *y*, was calculated to determine the probability (0 is false, 1 is true). The standard error and the z-value were also calculated for the analysis. Additionally, the data tested the Log(odds) = log(odds no dv) x B1 + log(odds dv/odds no dv) x B2. The analysis of the independent and dependent variables for this study determined if the data was approaching significance at $p < 0.05$.

The study did not need to account for a sampling error as the data was provided by DPS for the entire state of Texas for all offenders who fell under the specific offenses requested, and a sample statistic estimate was not necessary.

Threats to Validity

The data collection was conducted by an external source which did not allow for the researcher to oversee the process. As the researcher did not have control over the data collection process, they only had access completed data extraction. The procedures used during the data collection could be a threat to the inferences drawn from this research if an error had occurred and was not caught. The limited access provided to the researcher to the direct data could pose a threat to the validity of this study.

State agencies and prosecutors are charged with coding crimes and offenses under the Texas Criminal Code. Coding discrepancies could be a potential threat to the validity of the study.

Additionally, it is important to note that most instances of animal cruelty and interpersonal violence do not result in arrest and consequently the lack of an arrest for interpersonal violence does not mean that the offender did not engage in the behavior, thus leading to potential false negatives.

Ethical Procedures

The researcher did have access to the offenders' names which required appropriate precautions and procedures to ensure confidentiality. Research was only conducted on the researcher's personal computer which was password protected. Additionally, the researcher did not use public computers or access information in public. Paper documentation secured in a locked compartment after use.

To help ensure confidentiality for the offender, offender names, and other sensitive information were removed from the compiled data. For the initial data collection and organization, offender SINs were utilized to search between records and obtain the necessary data for this study. Once the sample group of 414 were selected and the offender records were combined for final analysis, a simple labeling system was used to replace the offenders' SIN with a specific identifier. For example, SIN 01234567 was assigned number 1, then SIN 00000003 was provided with the number 2 for the final data analysis. The offender records were kept within Excel that provided the researcher the ability to keep detailed notes on each case. Data was backed-up after each data cleaning session and analysis within Box, a content management system. The data storage system was secure and password protected.

Domestic violence and animal cruelty are a sensitive topic that was handled with sensitivity and confidentiality. It was important that during this research that the data and results were dealt with cautiously.

Summary

Using existing data collected by a government agency allowed the study to eliminate researcher bias and achieve a wider catchment area for offenses committed. This research sought to investigate the likelihood of animal cruelty offenders charged for future domestic violence

offenses by tracking offenders' criminal activity. More specifically, the research sought to evaluate if an offender with a prior animal abuse charge had a higher probability of future domestic violence compared to an offender with a prior property offense charge. The inclusion of a control group strengthened this study's results by evaluating the likelihood of property offenders charged for future domestic violence. Logistic regression captured the presence of future domestic violence offenses and demonstrated if the results were statistically significant.

Chapter 4: Results

As illustrated in the literature review, research has identified a connection ("the link") between animal cruelty and interpersonal violence. A significant portion of the research conducted has focused on qualitative studies that include personal accounts from domestic violence victims and offenders, leaving a gap in the body of research investigating the relationship quantitatively. Research by Burchfield (2016), Levitt et al. (2016), Richard and Reese (2019), and White and Quick (2019) have taken a quantitative approach to help fill the gap in research. Comparatively, this research took a different approach to evaluate the prevalence of future domestic violence offenses amongst those who have committed animal abuse.

This research sought to examine the occurrence of animal cruelty and future domestic violence quantitatively by evaluating offender criminal histories and court dispositions to identify if animal cruelty offenders had a higher likelihood of a domestic violence offense following the initial charges compared to a control group of property offenders. The research question asked, what is the likelihood that perpetrators arrested for animal cruelty will be charged with domestic violence following the initial animal cruelty offense? The null hypothesis stated that there would be no difference between individuals who are charged with animal cruelty compared to those charged with property offenses and the occurrence of domestic violence charges following the initial offense. The alternative hypothesis stated that individuals who are charged with animal cruelty initially are more like to have domestic violence charges following the animal cruelty charges compared to individuals initially charged with a property offense.

Secondary data from DPS was examined for the purposes of this research. The data extraction from the Texas CCH system was completed and uploaded to the CJIS portal on April 2, 2020. Analysis of the data began on April 2, 2020 and was completed on September 4, 2020.

Sample Population

The records for all individuals who had an animal cruelty and property offense between January 1, 2014 and December 31, 2019 as well as each offender's criminal history was requested from DPS. Including the criminal histories of the offenders, more than 40 million rows of data were extracted from the system for this research. As stated in the methodology chapter, the State's CCH system assigns the respective data one of seven record numbers base on the type of record: (1) identification, (2) identification supplement, (3) arrest, (4) prosecution, (5) court, (6) court supplement, and (7) custody. Record Type 1 established the number of offenders identified for the analysis based on the preliminary parameters provided to the State. A total of 2,393,694 offenders were identified within the initial data extraction for animal cruelty and property offenses between 2014 and 2019.

The data in Table 3 illustrates the number of offenders and offenses for both animal cruelty and property offenses based on the Date of Detention or Arrest variable. The study followed offender from the initial offense (animal cruelty or property) in 2014 and 2015, and tracked offenders for potential domestic violence offenses until December 31, 2019. The data set available for the current study only allowed offenders to be tacked for a maximum of five years. As shown in Table 3, there were a total of 8,344 animal cruelty offenses within the data extraction with the earliest offense occurring July 28, 1989. Comparatively, there was a total of 131,621 property offenses with the earliest offense occurring on December 16, 1985.

Table 3. Total Number of Animal Cruelty and Property Offenders and Offenses

Animal Cruelty		Property	
All Offenses	8,344	All Offenses	131,621
All Offenders	4,858	All Offenders	92,255
Offenses committed in 2014/2015 – female offenders included	1,014	Offenses committed in 2014/2015 – female offenders included	15,483
No prior Domestic Violence in 2014/2015 – male offenders only	686	No prior Domestic Violence or Animal Cruelty in 2014/2015 – male offenders only	11,973

Data for animal cruelty and property offenses in Texas. Data is broken down by offense and by year.

Source: Texas Department of Public Safety

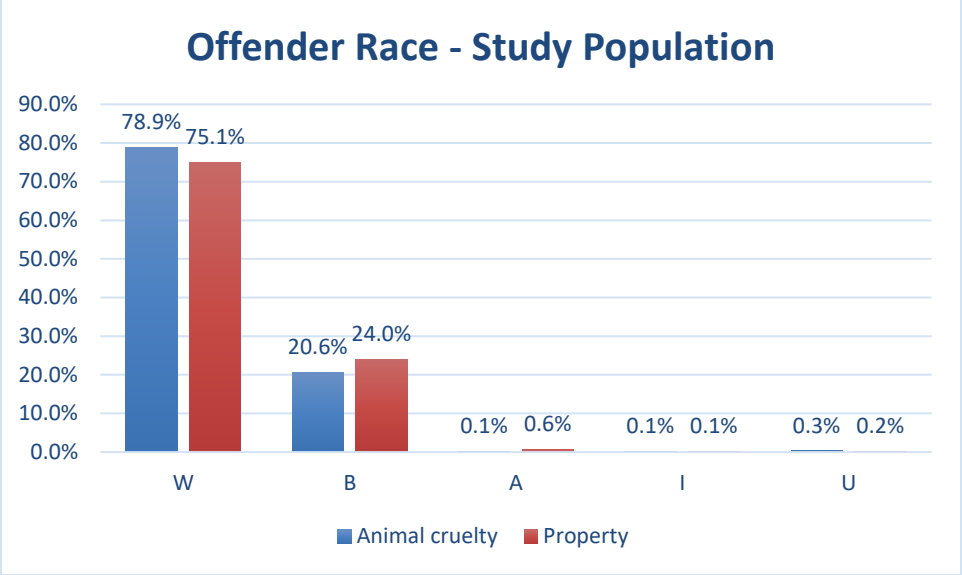
Filtering by the Date of Detention or Arrest variable for 2014 and 2015 in Record Type 5, the data stipulated there were 1,014 animal cruelty offenders including female offenders and 15,483 property offenders including female offenders. The data set was further drilled down to eliminate offenders with previous domestic violence offenses prior to offenses in 2014 and 2015 as well the elimination of female offenders based on the research design discussed in the methodology chapter. For property offenders, offenders with a history of animal abuse were also removed. Ultimately 686 male animal offenders with no prior domestic violence offenses and 11,973 male property offenders with no prior domestic violence or animal cruelty offenses in 2014 and 2015 met the requirements for this research. A priori power analysis was performed to identity the sample needed at Cohen's h small effect size (f_2 =.02) at $p < .05$ and a statistical power of .8. The results concluded 414 observations were required to achieve statistical power. The study randomly selected 207 animal cruelty and 207 property offenders.

Demographic Data

The CCH system includes five race identifiers that are coded as follows: American Indian or Alaskan Native (I), Asian or Pacific Islander (A), Black (B), White (W) or unknown (U or

blank). Only one race per offender may be selected in the CCH system. Figure 3 illustrates the race of offenders for offenders that met the inclusion criteria. The population of offenders were overwhelmingly White, 78.9 percent of animal cruelty offenders and 75.1 percent of property offenders.

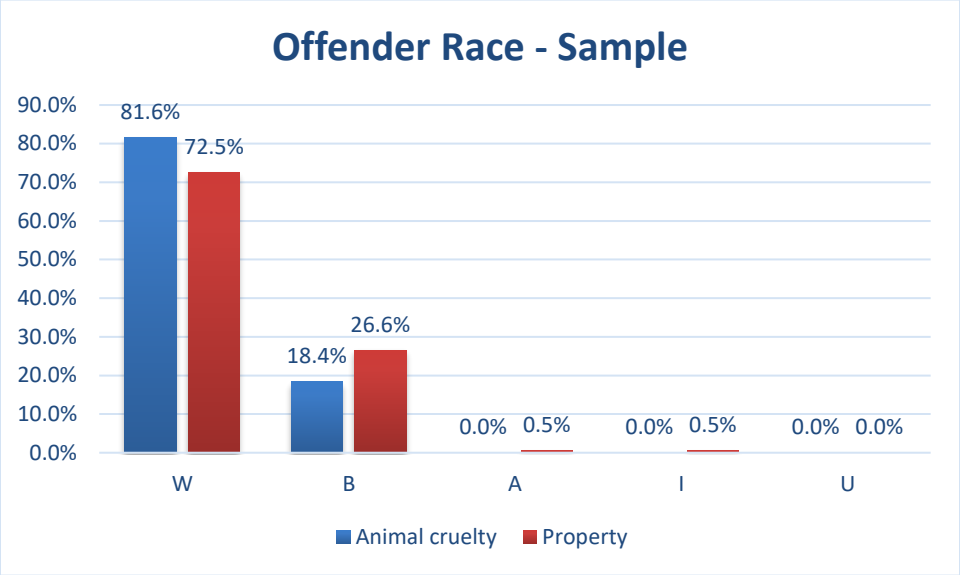
Figure 3. Offense by Race and Offense Group



Note. Data for animal cruelty and property offenses in Texas. Data is broken down by race for all offenders who met the inclusion criteria, sorted by Record Type 1 provided in the data extraction from the Texas Department of Public Safety.

Comparatively, Figure 4 demonstrates the race of offenders for the sample which is representative of the larger offender population. Of the sample population, again, the majority of offenders were White for both animal cruelty and property offenders (81.6 percent and 72.5 percent). In both the inclusion criteria population and the sample population, offenders identified as Black accounted for a higher percentage (24 percent, 26.6 percent) of property offenses than animal cruelty. Notably, there were no animal cruelty offenders in the random sample identified as Alaskan Native (I), Asian or Pacific Islander (A). Additionally, in the random sample, no offenders' race was reported as (U or blank) for both animal cruelty and property offenses.

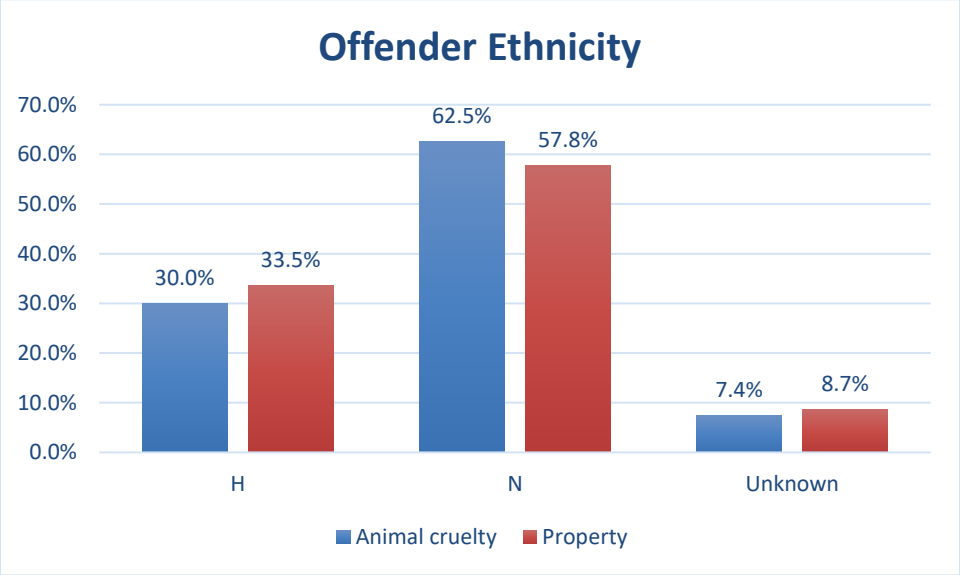
Figure 4. Offense by Race and Offense Group - Sample



Note. Data for animal cruelty and property offenses in Texas. Data is broken down by race for random sample of 414 offenders, sorted by Record Type 1 provided in the data extraction from the Texas Department of Public Safety.

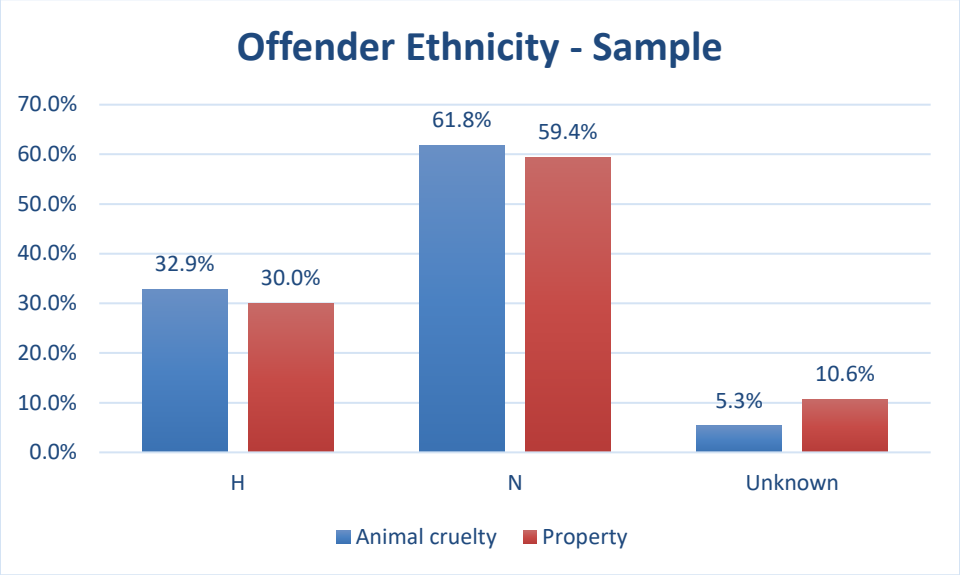
Figure 5 displays offender ethnicity grouped by offender offense (animal cruelty or property). The CCH system only allows for one of the following codes per offender: Hispanic (H), Non-Hispanic (N), or unknown (blank).

Figure 5. Offenders Ethnicity Grouped by Offense



Note. Data for animal cruelty and property offenses in Texas. Data is broken down ethnicity for all offenders in the large study population. Data extraction from the Texas Department of Public Safety.

Figure 6. Offenders Ethnicity Grouped by Offense - Sample



Note. Data for animal cruelty and property offenses in Texas. Data is broken down by ethnicity for random sample of 414 offenders, sorted by Record Type 1 provided in the data extraction from the Texas Department of Public Safety.

As Figure 5 portrays, the majority of the study population for both animal cruelty (62.5 percent) and property (57.8 percent) were identified in official records as Non-Hispanic. Figure 6 demonstrates the ethnicity of offenders for the sample which is representative of the study population. Similar to the larger study population, majority of the offenders identified as Non-Hispanic for both animal cruelty (61.8 percent) and property (59.4 percent) offenders. One noticeable difference between the study population and the random sample pertained to the slight variation in offenders identified as Hispanic. In the larger study population, more property offenders (33.5 percent) compared to animal cruelty offenders (30.0 percent) identified as Hispanic while in the sample the percentage identifying as Hispanic varied slightly.

Findings

The data analysis consisted of a logistic regression of the two groups, animal cruelty offenders with no prior criminal history of domestic violence and property offenders with no

prior history of animal cruelty and domestic violence. The independent variable for analysis in this study was prior offenses consisting of two levels, animal cruelty and property offenders. The dependent variable was domestic violence offenses. The initial binary coding for the sample to identify and categorize offenders included property offenders (0) and animal cruelty (1). Then the domestic violence occurrences were converted into a binary coding system, true (1) or false (0). The conversion to a binary coding system enabled the researcher to examine the offense occurrences, if true (1) then domestic violence offense occurred after the initial offense or false (0) no domestic violence offense followed.

The sample was composed of both animal cruelty (n = 207) and property (n = 207) offenders for a total of 414 observations. The sample mean for domestic violence was M = .0242 and the standard deviation was 0.154. Table 4 displays the logistic regression calculating the ordered log-odds estimate for a one unit increase of animal cruelty offenders having a future domestic violence offense. Assuming all other variables remained constant, the ordered log-odds estimate for the sample was -1.416.

Table 4. Logistic Regression – Future Domestic Violence of Animal Cruelty Offenders

Statistic	***n***	***M (SEM)***	***p***	**95% CI**
Future Domestic Violence	10	-1.416 (0.797)	0.076	[-2.977, 0. 1457]

Note. CI = confidence interval.

Source: Texas Department of Safety, Domestic Violence Offenses for Texas

The standard error of the mean ($\sigma_{\bar{x}}$ = 0.797) accounted for the estimated standard deviation distribution for the sample. The relation of the coefficient to the standard error (z = -1.78) evaluated if the X variable (animal cruelty) was related to the Y variable (domestic violence). Calculating for alpha ($p < .05$), the logistic regression failed to reject the null hypothesis, as p = 0.076 did not reach statistical significance.

Descriptive analysis evaluated offenders' age at the time of offense for the initial animal cruelty and property offense, and the age of the offender during the domestic violence offense. Table 5 details the age of offenders in the sample.

Table 5. Age at Arrest

Statistic	Initial Offense	Domestic Violence
M	34.3	29.7
SD	12.1	6.3
Smallest	18	19
Largest	78	38

Initial offense consists of age at time of arrest for animal cruelty or property offense in 2014 and 2015 for the sample of 414 observations. The age of the offender for a domestic violence offense is represented in the second column. Ten offenders were included in the domestic violence dependent variable.

Source: Texas Department of Public Safety

On average, offenders were in their 30's (M = 34.3, SD = 12.1) at the time of the initial offense (animal cruelty or property) and their ages ranged from 18 through 78. Alternatively, offenders with domestic violence offenses following their initial offense tended to be younger (M = 29.7, SD = 6.3), ages ranging from 19 through 38 (n = 10). The study was unable to compare the average age of the larger population with the sample to confirm similarity in findings.

The study explored the relationship of the Court Offense Number variable by grouping the variable by like offenses and then cross tabulating the offenses with the dependent variable (domestic violence). The grouping provided a richer perspective of the types of offenses committed by the offenders' initially and what offenses were committed where the Domestic Violence Indicator was selected. The Court Offense Numbers were combined to create seven groupings (see Table 6). The grouped offenses reveal that Criminal Mischief (n = 198) and Non-livestock cruelty (n = 143) were the most common initial offense types.

Table 6. Offences grouped by Offence number * Court Offense Numeric2 Crosstabulation

Offences grouped by Offense Number	Court Offense number for Dependent Variable			
	13990031	13990075	13990076	13999999
1. Arson	1	0	0	0
2. Criminal Mischief	5	1	1	0
3. Dog fighting	0	0	0	0
4. Cockfighting	0	0	0	0
5. Non-livestock cruelty	1	0	0	1
6. Livestock cruelty	0	0	0	0
7. General - animal cruelty	0	0	0	0
Total	7	1	1	1

Offenses were grouped by type of offense using the FullOffenseCodeListnew.xlsx provided by DPS. Ten offenders were included in the domestic violence dependent variable.

Source: Texas Department of Public Safety

The analysis found four offenses associated with the dependent variable: 13990076, Assault Family/House Member Impeding Breath/Circulation; 13990031, Assault Causes Bodily Injury to Family Member; 13990075, Assault Family/Household Member Previously of Offense Under Chapter; 13999999, Assault Class C. Table 6 supports the findings from the logistic regression as eight of the offenders with domestic violence offenses had previous property offenses while two were associated with animal cruelty. The majority of the domestic violence offenses fell under the Court Offense Number 13990031 or Texas Penal Code Section 22.01(a)(1) which involves offenders who have been arrested/charged with initially causing bodily injury to another person, including their spouse. Additionally, Table 6 displays the type of initial offense most common for those charged with domestic violence related offenses. All but one property offender had an initial offense of Criminal Mischief, while both animal cruelty offenders were charged initially with Non-livestock cruelty.

It should be noted that after the evaluation of the sample was completed, one animal cruelty offender included in the study also had a disposition for a property offense on the same

day. The study did not control for animal cruelty offenders with previous property offenses, only property offenders with previous animal cruelty and domestic violence offense.

Summary

The research question asked, what is the likelihood that perpetrators charged for animal cruelty will be charged with domestic violence in the five years following the initial animal cruelty offense? The finding of this study failed to reject the null hypothesis as the logistic regression analysis did not reach statistical significance. The results of this study ultimately found that offenders with an initial offense of animal cruelty were less likely to have a following domestic violence offense than those with an initial property offense. The results of this study were surprising and created more questions than answers.

Chapter 5: Recommendations and Conclusions

Summary of Findings

The academic community identified a relationship between animal abuse and interpersonal violence (Newberry, 2017; McDonough et al., 2015; Peak et al., 2012). This relationship, commonly referred to as "the link" within the extant body of literature, has been investigated through surveys, interviews, and discourse analysis (Febres et al., 2014; Ascione, 1997; Simmons & Lehmann, 2007; Newberry, 2017; McDonald et al., 2015; Hardesty et al. 2013; DeGue & DiLillo, 2009).

This study examined whether individuals charged with animal cruelty had a higher likelihood of future domestic violence charges compared to individuals charged with property offenses; individuals with a history of domestic violence were removed from the sample. A secondary analysis utilized an existing data set provided by the Texas Department of Public Safety to examine the criminal histories and disposed cases of animal cruelty and property offenders. This study attempted to answer the initial research question: What is the likelihood that perpetrators charged for animal cruelty will be charged with domestic violence following an initial animal cruelty offense? The null hypothesis proposed that there would be no difference between offenders with animal cruelty offenses compared to those with property offenses and the occurrence of future domestic violence charges. The results of this study did fail to reject the null hypothesis.

Conclusions and Recommendations

Previous research investigating domestic violence incidents where animals were present in the household found that animal cruelty frequently occurred, and animals were used to manipulate and control victims (Ascione, 1997; Newberry, 2017; Simmons & Lehmann, 2007). The current research conducted a logistic regression to evaluate whether those who have

committed animal cruelty offenses are more likely to engage in future domestic violence when compared to a control group of individuals with property offenses. The logistic regression did not reach statistical significance. This study observed a limited number of future domestic violence offenses, and only two of the offenders with future domestic violence offenses had previous animal cruelty offenses. This study's outcome did not show the progression of animal cruelty to future domestic violence and was unable to support the violence graduation hypothesis. In the sections below, the researcher provides an explanation for the inconsistency, including the limitations of the available data and the issue of under-reported and unreported cases of domestic violence and animal cruelty.

Research Design

The initial design of the study included evaluating offenders charged with assault under Texas Penal Code § 22.01 (1973) for offenses associated with Tex. Family Code § 71.0021 (2001). However, the data extraction revealed no clear path to delineate between the multiple offenses housed under Tex. Penal Code § 22.01 (1973). Due to challenges with the data pull results and how assault cases were presented within the data, the researcher utilized the Domestic Violence Indicator to evaluate animal cruelty and property offenders' criminal histories for domestic violence. The dependency on the Domestic Violence Indicator possibly altered the results of this study and, until the indicator is mandatory, arrest records would more clearly identify the presence of domestic violence incidents.

The limited time allowed for recidivism likely also impacted the results of this study. Studies evaluating the criminal career lengths of serious crimes found that the average career length lasted 16.95 years (Ezell, 2007) and 17.3 years (Piquero et al., 2004). The average criminal career of animal abusers has been shown to last 6.5 years (van Wijk et al., 2018). The

data set available for the current study only allowed offenders to be tacked for a maximum of five years. Thus, offenders may not have had a long enough period of time to recidivate during the study period. Further, as the study did not track periods of incarceration, it is possible that they were unable to recidivate because they were still serving a sentence for the index charge(s).

During the sample selection process, the design of the study did not match the control group in terms of race, age, neighborhood, or socioeconomics. By removing group differences, the matched groups allow for the results to more evidently detect the effect of the dependent variable (Allen, 2017). Future research may want to design the study utilizing a matched sample.

The design did not account for other factors within the offenders' criminal histories, including other offenses committed prior to, and following, the 2014 and 2015 initial offense except for domestic violence offenses. Previous research has found that animal cruelty offenders often had a criminal history of assault (Levitt et al., 2016; Richard & Reese, 2019). Levitt et al. (2016) found that 31 percent of animal cruelty offenders had prior assault arrests. Perhaps most critically, all individuals with a history of domestic violence were immediately removed from the sample. Thus, whether animal abusers were more likely than property offenders to have a previous offense for domestic violence is unknown. Ultimately, the researcher eliminated offenders with previous domestic violence offenses as past behaviors are often a predictor of future behaviors. This conservative approach likely altered the results of the study.

Future research studies may wish to follow offenders for a longer time period to account for these factors. Given van Wijk et al. (2018) found the average criminal career for animal abuse offenders was 6.5 years, and the maximum recidivism time period of 5 years allowed for this study, future research could capture additional offenders by using a longer time period of 10 years. Future research would also want to account for any incarceration periods that would

prevent the individual from reoffending. Finally, the availability of arrest records would allow future research to more precisely determine whether an incident involved domestic violence, avoiding the need to rely upon the Domestic Violence Indicator, which likely provides a very conservative estimate of the occurrence of domestic violence offenses.

The study evaluated offender disposed cases and criminal histories for the presence of animal cruelty and property offenses. However, the study did not have access to arrest reports for additional analysis. Due to the process of charge bargaining, where defendants have the option to reduce the initial charges by accepting a plea bargain for a lesser charge (Devers, 2011), the researcher limited the evaluation to disposed cases instead of arrests. This conservative approach attempted to reduce the occurrence of a false positive and possibly impacted this study's findings.

Type II Error

The failure to reject the null hypothesis could be in part to a Type II Error, meaning the error is a false negative (Kim, 2018). To evaluate the possibility of a Type II Error, the odds ratio was calculated to determine if the study lacked statistical power and insufficient sample size. The odds ratio yielded a value of .2427, indicating animal cruelty offenders were approximately 25 percent as likely as the property offenders to have a future domestic violence offense. The results of the odds ratio combined with the p-value of .076 suggest the study lacked statistical power. Thus, these results suggest with a larger sample, the study may have reached statistical significance, although not in the expected direction.

Under-reported and Unreported Offenses

The researcher addressed the limitation of under-reported and unreported cases previously in this research, and based on the findings of this study, possibly impacted the final results. Considering the circumstance of domestic violence situations where animal cruelty has

occurred, the lack of observations supports this notion. The number of domestic violence incidents that result in arrest is a fraction of the number of actual incidents that go unreported (Gracia, 2004). Levitt et al. (2016) found that at least 12 percent of offenders had committed interpersonal violence but were not arrested for the incident. Similarly, Campbell et al. (2018) reported that offenders with a history of animal abuse had a higher likelihood of unreported interpersonal violence incidents compared to offenders with no animal abuse history. Of the victims who reported the occurrence of unreported interpersonal violence incidents by offenders with a history of animal abuse, 9 percent reported 50 or more unreported interpersonal violence incidents had occurred (Campbell et al., 2018). Animals are often used as a tool to manipulate domestic violence victims, intensifying the lack of reporting of both domestic violence and animal cruelty. This manipulation includes restricting victims from seeking veterinary care for the animals, pressing/reporting charges to authorities, or fleeing domestic violence situations. Acknowledging the occurrence of under-reported and unreported incidents of interpersonal violence and the use of animals to control victims, it is fair to extrapolate animal cruelty is often unreported and could, in part, contribute to the lack of observation of domestic violence incidents in this study.

Deviance Generalization Hypothesis

This study's design mirrored the violence graduation hypothesis by evaluating if animal cruelty offenders would have a future domestic violence offense following the initial animal cruelty offense. The study observed a limited number of domestic violence occurrences. Of the 414 offenders from the random sample, only ten offenders had a future domestic violence offense. More specifically, 1.93 percent (8 of 414) of the sample were property offenders, and 0.48 percent (2 of 414) were animal cruelty offenders. Of the eight property offenders, the

majority with future domestic violence offenses had criminal histories of Criminal Mischief (n = 7). Of the animal cruelty offenders with future domestic violence offenses (n =2), offender criminal histories included Non-livestock cruelty. The majority of the domestic violence offenses fell under Texas Penal Code Section 22.01(a)(1) in which offenders have been arrested/charged with initially causing bodily injury to another person, including their spouse. These findings suggest that animal cruelty is not a predictor of imminent future domestic violence resulting in arrest and support the deviance generalization hypothesis that both property and animal cruelty offenses are antisocial behaviors and occur in no order.

Policy Recommendations

Currently, only 10 states and the District of Columbia have mandated cross-reporting between professional organizations (Balkin et al., 2019). Previous research has identified a need for joint training initiatives and cross-reporting between domestic violence advocates, child protection services, and animal welfare groups to enlarge the catchment and provide further protections for victims (Newberry, 2017). Even though the number of observations of future domestic violence in this study was small, the results support the need for cross-reporting between agencies. DeGue and DiLillo (2009) found that survey respondents who had reported experiencing some type of family violence or animal abuse had also been exposed to other types of abuse. The researcher recommends a policy implementing a cross-reporting mandate between government agencies, domestic violence service providers, and animal welfare organizations. This recommendation would include updating intake forms at all agencies and organizations to include questions regarding pets within the place of residents and inquiring about unreported animal abuse by an intimate partner. Additionally, organizations would be required to develop a safety plan for animals still in the home and charged with finding appropriate accommodations

while the victim was receiving services (Ascione, 1997). A cross-reporting mandate could reduce the number of underreporting and unreported cases of both animal cruelty and domestic violence incidents due to increased communication and better detection (Balkin et al., 2019).

Previous literature discussed the challenges experienced by interpersonal violence practitioners in finding placements for domestic violence victims with pets (Hageman et al., 2018). Animal shelters can provide some assistance with temporary housing for domestic violence pets. However, some interpersonal violence social service professionals reported that animal shelters were often only able to house pets for 10 to 30 days, even though the stay at domestic violence shelters is longer (Hageman et al., 2018). Additionally, a limited number of domestic violence shelters are able to accommodate domestic violence victims and their pets (Hageman et al., 2018). It is recommended that animal welfare organizations and domestic violence shelters develop additional temporary housing for domestic violence victims and their pets. Community partners, including domestic violence shelters and animal shelters, need to work together to create long-term options for domestic violence victims. Additionally, state and local government funding is needed to expand shelter services for victims and their pets.

The initial design for this study planned to utilize the Texas Penal Code to identify domestic violence offenses charged for assault under Texas Penal Code § 22.01. However, during the data sorting and analysis process, the researcher discovered a challenge within the Texas legislation regarding domestic violence offenses. Texas Family Code Provisions for domestic violence are not specifically stipulated within Texas Penal Code § 22.01 for assault. Rather, the family code is referenced and defined within Texas Family Code Section 71.004. This required the researcher to lean on the Domestic Violence Indicator in the CCH system. Texas Code of Criminal Procedure, Chapter 66 details what information is required to be

reported to the CCH system, and the Domestic Violence Indicator is not listed as a mandatory field. Based on the limited observations when the Domestic Violence Indicator was utilized, revisions to the legislation are needed. It is recommended that the State revise the Texas Code of Criminal Procedure, Chapter 66, to include the Domestic Violence Indicator as a mandatory field. This recommendation includes revising the system to indicate a Y (yes) or N (no) to identify domestic violence related offenses instead of leaving the field blank. Furthermore, the Department of Public Safety and the Texas Department of Criminal Justice must work together to implement the revised mandatory code and ensure all personnel are training appropriately.

Animal cruelty is a social issue that still needs to be further explored. Associated with antisocial behaviors, there is a need for animal cruelty to be viewed as a significant offense and public health issue. Studies have identified a relationship between animal cruelty and several different criminal offenses, including property, drug, and interpersonal violence. Previous research has found a “link” between animal cruelty and interpersonal violence. Strong legislation and cross-reporting are tools to help support the efforts of prosecuting animal cruelty offenders and ensure acts of animal cruelty are reported.

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Appendix A

Table 1 Animal Cruelty Offender 2016, 2017, and 2018, Age and Sex

Offender By Age	2016	2017	2018	Sex	2016	2017	2018
10 & Under	1	8	34	Male	569	1758	2831
11-15	14	74	87	Female	407	1113	1818
16-20	46	170	290	Unknown	81	244	350
21-25	100	330	506				
26-30	*118*	390	619				
31-35	121	323	557				
36-40	113	342	553				
41-45	75	237	425				
46-50	83	211	345				
51-55	74	190	298				
56-60	69	161	278				
61-65	37	137	195				
66 & Over	58	163	275				
Unknown Age	148	379	537				

Note: Data collected from Nation Based Incident Reporting System (NBIRS) for 2016, 2017, and 2018. These are the only three years available through reporting provided nationally to the FBI.

Table 2 Number of Animal Cruelty Offenses for 2016, 2017, and 2018

State	2016	2017	2018
Alabama	0	0	2
Arizona	0	0	2
Arkansas	0	0	0
Colorado	8	526	782
Connecticut	0	18	74
Delaware	494	923	1097
District of Columbia	0	0	0
Georgia			0
Hawaii			50
Idaho	0	2	7
Illinois	0	0	0
Indiana	0	0	0
Iowa	0	0	0
Kansas	0	0	0
Kentucky	0	45	186
Louisiana	0	0	0
Maine	0	3	13
Maryland		0	0
Massachusetts	2	13	44
Michigan	130	277	398
Minnesota	1	4	61
Mississippi	0	0	47
Missouri	15	43	43
Montana	0	83	92
Nebraska	0	0	1
New Hampshire	0	81	173
New Mexico			11
North Dakota	7	46	81
Ohio	0	23	102
Oklahoma	0	0	0
Oregon	105	134	421
Pennsylvania	0	0	0
Rhode Island	0	0	5
South Carolina	0	200	295
South Dakota	10	12	24
Tennessee	219	476	463
Texas	0	69	393
Utah	0	0	0
Vermont	0	21	41
Virginia	0	0	0
Washington	85	114	128
West Virginia	13	18	11
Wisconsin	37	97	154

Note: Data collected from Nation Based Incident Reporting System (NBIRS) for 2016, 2017, and 2018. These are the only three years available through reporting provided nationally to the FBI.

Appendix B

Offense Code	Statute	Citation	L/D	Literal	Begin Date	End Date
62990040	PC	42.091(c)(1)	MA	ATTACK ON ASSISTANCE ANIMAL	9/1/2003 0:00	
62990041	PC	42.091 (C)(2)	FS	ATTACK ON ASSISTANCE ANIMAL - CAUSES INJURY	9/1/2003 0:00	
62990042	PC	42.091 (C)(3)	F3	ATTACK ON ASSISTANCE ANIMAL - CAUSES DEATH	9/1/2003 0:00	
62990046	PC	42.091 (c)(2)	FS	ATTACK ON ASSISTANCE ANIMAL W/INJURY	9/1/2005 0:00	2/12/2006 0:00
62990047	PC	42.091 (c)(3)	F3	ATTACK ON ASSISTANCE ANIMAL CAUSING DEATH	9/1/2005 0:00	2/12/2006 0:00
72010001	PC	42.092(c-1)	F3	CRUELTY NON-LIVESTK ANIM:KILL/POISON/SBI		
72010002	PC	42.092(c-1)	F2	CRUELTY NON-LVSTK ANIM:KILL/PSON/SBI PREV CONV		
72010003	PC	42.092(c-2)	FS	CRUELTY NON-LIVESTK ANIM:FIGHT/LURE		
72010004	PC	42.092(c-2)	F3	CRUELTY NON-LIVESTK ANIM:FIGHT/LURE PREV CONV		
72990032	PC	42.091(c)(1)	MA	ATTACK ON ASSISTANCE ANIMAL	9/1/2003 0:00	9/1/2009 0:00
72990033	PC	42.091(c)(2)	FS	ATTACK ON ASSISTANNCE ANIMAL CAUSES INJURY	9/1/2003 0:00	9/1/2009 0:00
72990034	PC	42.091(c)(3)	F3	ATTACK ON ASSISTANCE ANIMAL CAUSES DEATH	9/1/2003 0:00	9/1/2009 0:00
72990036	PC	42.10(e)	FS	DOG FIGHT: PARTICIP IN EARNINGS/ PROVIDE BLDG		
72990037	PC	42.10(e)	MA	DOG FIGHT: OWNS/POSS DOG FIGHTING EQUIPMENT		
72990038	PC	42.10(e)	MA	DOG FIGHT: OWNS/TRAIN DOG IN FIGHT/A SPECTATOR		
72990039	PC	42.09(c)	MA	CRUELTY TO LIVESTOCK ANIM NEGLECT/OVERWORK		
72990040	PC	42.09(c)	FS	CRUELTY TO LIVESTOCK ANIM N/O W/2 PREV CONV		
72990045	PC	42.09(c)	FS	CRUELTY TO LIVESTOCK ANIMALS PHYSICAL ABUSE		
72990046	PC	42.09(c)	F3	CRUELTY TO LIVESTOCK ANIM PA W/2 PREV CONV		
73990046	PC	42.11	MA	CRUELTY TO ANIMALS		9/1/1995 0:00
73990070	PC	42.111(a)(2-4)	F3	DOG FIGHTING OPER FACIL/RECV PECUNIARY BENEF		9/1/1995 0:00

73990071	PC	42.111(a)(1&5)	MA	DOG FIGHTING OWNS DOG OR CAUSES FIGHT		9/1/1995 0:00
73990177	PC	42.105(g)	FS	COCKFIGHTING: CAUSES OR EARNS		
73990183	PC	42.105(g)	MA	COCKFIGHTING: SPACE/OWNS/TRAINS/EQUIPS		
73990189	PC	42.105(g)	MA	COCKFIGHTING: SPECTATOR W/PREV CONV		
73990370	PC	42.09	MA	CRUELTY TO ANIMALS		9/1/2003 0:00
73990371	PC	42.10(a)(1)	MA	DOG FIGHTING		9/1/2007 0:00
73990372	PC	42.10(a)(5)	MA	OWN/TRAIN FIGHTING DOG		9/1/1997 0:00
73990373	PC	42.10(a)(2)	FS	DOG FIGHTING FOR PECUNIARY BENEFIT		9/1/2007 0:00
73990374	PC	42.10(a)(3)	FS	OPER DOG FIGHTING FACILITY		9/1/1997 0:00
73990375	PC	42.10(a)(4)	MA	AUTH USE OF PROP FOR DOG FIGHTING		9/1/1997 0:00
73990459	PC	42.09(d)	FS	CRUELTY TO ANIMALS 2+ PREV CONVIC		9/1/2003 0:00
73990561	PC	42.09 (g)	F3	CRUELTY TO ANIMALS W/2 PREV CONVIC		9/1/2003 0:00
73990594	PC	42.09(a)	MA	CRUELTY TO ANIMALS (PARAGRAPHS 2,3,4,9,10)		9/1/2007 0:00
73990595	PC	42.09(a)	FS	CRUELTY TO ANIMALS W/2 PREV CONV (2,3,4,9,10)		9/1/2007 0:00
73990596	PC	42.09(a)	FS	CRUELTY TO ANIMALS (PARAGRAPHS 1,5,6,7,8)		9/1/2007 0:00
73990597	PC	42.09(a)	F3	CRUELTY TO ANIMALS W/2 PREV CONV (1,5,6,7,8)		9/1/2007 0:00
73990643	PC	42.092(c)	MA	CRUELTY NON-LVSTK:FAIL PRV/ABDN/TRNSPT/BI/OVWK	9/1/2007 0:00	
73990644	PC	42.092(c)	FS	CRLTY NON-LVSTK:FL PRV/ABDN/TRNSPT/BI/OWK 2 CV	9/1/2007 0:00	
73990645	PC	42.092(c)	FS	CRUELTY TO NON-LIVESTOCK ANIMALS: TORTURE	9/1/2007 0:00	9/6/2017 0:00
73990646	PC	42.092(c)	F3	CRUELTY NON-LIVESTK ANIM:TORTURE W/2 PREV CONV	9/1/2007 0:00	9/6/2017 0:00
73991059	PC	42.10(a)(4)(5)	MA	DOG FIGHT: OWN/TRAIN DOG IN FIGHT/A SPECTATOR	9/1/2007 0:00	9/1/2009 0:00
73991060	PC	42.10(a)(1)(2)(3)	FS	DOG FIGHT: PARTICIP IN EARNINGS/ PROVIDE BLDG	9/1/2007 0:00	6/1/2016 0:00
73991064	PC	42.09(a)(1,5,6,7,8)	FS	CRUELTY TO LIVESTOCK ANIMALS	9/1/2007 0:00	7/25/2016 0:00
73991065	PC	42.09(a)(2,3,4,9,10)	MA	CRUELTY TO LIVESTOCK ANIMALS	9/1/2007 0:00	7/25/2016 0:00

73991066	PC	42.09(a)(1,5,6,7,8)	F3	CRUELTY TO LIVESTOCK ANIM W/2 PREV CONV	9/1/2007 0:00	7/25/2016 0:00
73991067	PC	42.09(a)(2,3,4,9,10)	FS	CRUELTY TO LIVESTOCK ANIM W/2 PREV CONV	9/1/2007 0:00	7/25/2016 0:00
73991072	PC	42.10(a)(4)	MA	DOG FIGHT: OWNS/POSS DOG FIGHTING EQUIPMENT	9/1/2009 0:00	6/1/2016 0:00
73991080	PC	42.10(a)(4)(5)(6)	MA	DOG FIGHT: OWNS/TRAIN DOG IN FIGHT/A SPECTATOR	9/1/2009 0:00	6/1/2016 0:00
20000001	PC	28.02(a)	F2	ARSON		9/1/1995 0:00
20000002	PC	28.02(a)	F1	ARSON BODILY INJURY OR DEATH		9/1/1995 0:00
20990001	PC	28.02(a)	F2	ARSON		2/20/2019 0:00
20990002	PC	28.02(a)	F1	ARSON BODILY INJ/DEATH		9/1/1997 0:00
20990003	PC	28.02(d)	F1	ARSON BODILY INJ		9/1/2005 0:00
20990004	PC	28.02(d)(1)	F1	ARSON CAUSING BODILY INJURY/DEATH IAT	9/1/2005 0:00	
20990005	PC	28.02(d)(2)	F1	ARSON INTEND DAMAGE HAB/PLACE OF WORSHIP IAT	9/1/2005 0:00	
20990006	PC	28.02(a)(2)	F3	ARSON OF BLDG/HABIT/VEH W/INT INJURY OR DAMAGE	9/1/2005 0:00	9/1/2009 0:00
20990007	PC	28.02(a-1)	F3	ARSON W/MAN OR ATT MAN CONT SUB CAUSE BI/DEATH	9/1/2005 0:00	2/20/2019 0:00
20990008	PC	28.02(a-1)	FS	ARSON W/MAN OR ATT MAN CONT SUB	9/1/2005 0:00	2/20/2019 0:00
20990009	PC	28.02(f)	FS	ARSON RECK DAMAGE BLDG/RECK CAUSE BI OR DEATH	9/1/2009 0:00	
20990010	PC	28.02(d)	F2	ARSON		
20990011	PC	28.02(e)	F3	ARSON W/MAN OR ATT MAN CONT SUB BI/DEATH IAT		
20990012	PC	28.02(e)	FS	ARSON W/MAN/ATT MAN CONT SUB DMGE BLDG/HAB/VEH		
29000013	PC	28.03(b)(2)	MB	CRIM MISCH >= $20<$200		9/1/1995 0:00
29000014	PC	28.03(b)(3)	MA	CRIM MISCH $200<$750		9/1/1995 0:00
29000015	PC	28.03(b)(4)(A)	F3	CRIM MISCH $750<$20K		9/1/1995 0:00
29000016	PC	28.03(b)(4)(B)	F3	CRIM MISCH IMPAIR INTERUPT PUBLIC SERVICE		9/1/1995 0:00
29000017	PC	28.03(b)(5)	F2	CRIM MISCH >=$20K		9/1/1995 0:00
29000018	PC	28.03(f)(1)	F3	CRIM MISCH CHURCH/PUB BLDG/SOC PROG $20<$20K		9/1/1995 0:00
29000019	PC	28.03(f)(2)	F2	CRIM MISCH CHURCH PUB BLDG SOC PROG >$20K		9/1/1995 0:00

29030012	PC	28.03(b)(4)(D)	FS	CRIMINAL MISCHIEF IMP/INT PUB SERVICE <$30,000		
29060001	PC	28.03(b)(4)(B)	FS	CRIMINAL MISCHIEF <$2,500 HABITATION W/FA/EXPL		
29990001	PC	28.03(a)	MB	CRIM MISCH>=$20<$500		9/1/1997 0:00
29990002	PC	28.03(a)	MA	CRIM MISCH>=$500<$1,500		6/30/2014 0:00
29990003	PC	28.03(a)	MA	CRIM MISCH<$1,500-IMPAIR/INTERUPT PB SERVICE		9/1/1997 0:00
29990004	PC	28.03(a)	FS	CRIM MISCH>=$1,500<$20K		6/30/2014 0:00
29990005	PC	28.03(a)	F3	CRIM MISCH>=$20K<$100K		6/30/2014 0:00
29990006	PC	28.03(a)	F2	CRIM MISCH>=$100K<$200K		6/30/2014 0:00
29990007	PC	28.03(a)	F1	CRIM MISCH>$200K		6/30/2014 0:00
29990008	PC	28.03(f)	FS	CRIM MISCH CHURCH/CEMETERY/ PB BLDG <$20K		9/1/1997 0:00
29990016	PC	28.03(b)(2)	MB	CRIMINAL MISCHIEF>$50<$500		9/1/2015 0:00
29990017	PC	28.03(b)(4)(B)	MA	CRIM MISCH<$1500 HAB DAMAGE FIREARM/EXPLOSIVE		9/1/1999 0:00
29990019	PC	28.03(3)(b)	MA	CRIMINAL MISCHIEF <$1500 IMPAIR PUB COMM/SUPPL		9/1/2009 0:00
29990020	PC	28.03(4)(b,c)	FS	CRIMINAL MISCHIEF <$1500 DAMAGE HABIT/ANIMAL		1/4/2010 0:00
29990021	PC	28.03(h)	FS	CRIMINAL MISCHIEF $1500 < $20K DESTROY SCHOOL		9/1/2015 0:00
29990022	PC	28.03(f)	FS	CRIMINAL MISCHIEF DAMAGE/DESTR WORSHIP/SCHOOL		
29990023	PC	28.03(i)	F1	CRIMINAL MISCHIEF FOR MAD COW DISEASE		
29990025	PC	28.03(j)	F3	CRIM MISCHIEF TRANS/COMM EQUIP/DEV <$100,000		9/1/2015 0:00
29990027	PC	28.03(b)(3)(B)	MA	CRIMINAL MISCHIEF IMPAIR/INTERRUPT PUB SERVICE	9/1/2009 0:00	
29990028	PC	28.03(b)(4)(D)	FS	CRIMINAL MISCHIEF IMP/INT PUB SERVICE <$20,000	9/1/2009 0:00	9/1/2015 0:00
29990029	PC	28.03(b)(4)(B)	FS	CRIMINAL MISCHIEF <$1500 HABITATION FA/EXPLOS	9/1/2009 0:00	9/1/2015 0:00
29990030	PC	28.03(b)(4)(C)	FS	CRIMINAL MISCHIEF <$1500 LS/GAME ANIM FENCE	9/1/2009 0:00	9/1/2015 0:00
29990037	PC	28.03(b)(3)(A)	MA	CRIMINAL MISCHIEF >=$500<$1,500		9/1/2015 0:00

29990038	PC	28.03(b)(4)(A)	FS	CRIMINAL MISCHIEF >=$1,500<$20K		9/1/2015 0:00
29990039	PC	28.03(b)(5)	F3	CRIMINAL MISCHIEF >=$20K<$100K		9/1/2015 0:00
29990040	PC	28.03(b)(6)	F2	CRIMINAL MISCHIEF >=$100K<$200K		9/1/2015 0:00
29990041	PC	28.03(b)(7)	F1	CRIMINAL MISCHIEF >=$200K		9/1/2015 0:00
29990042	PC	28.03(b)(2)	MB	CRIMINAL MISCHIEF >=$100<$750		
29990043	PC	28.03(b)(3)(A)	MA	CRIMINAL MISCHIEF >=$750<$2,500		
29990044	PC	28.03(b)(4)(A)	FS	CRIMINAL MISCHIEF >=$2,500<$30K		
29990045	PC	28.03(b)(4)(C)	FS	CRIMINAL MISCHIEF <$2,500 LS/GAME ANIM FENCE		
29990046	PC	28.03(b)(5)	F3	CRIMINAL MISCHIEF >=$30K<$150K		9/6/2017 0:00
29990047	PC	28.03(b)(6)	F2	CRIMINAL MISCHIEF >=$150K<$300K		
29990048	PC	28.03(b)(7)	F1	CRIMINAL MISCHIEF >=$300K		
29990049	PC	28.03(h)	FS	CRIMINAL MISCHIEF >=$750<$30K DESTROY SCHOOL		
29990050	PC	28.03(j)	F3	CRIM MISCHIEF TRANS/COMM EQUIP/DEV <$150,000		
29990065	PC	28.03(b)(5)(A)	F3	CRIMINAL MISCHIEF >=$30K<$150K		
29990066	PC	28.03(b)(5)(B)	F3	CRIM MISCHIEF FIREARM/WEAPON DEATH LIVESTOCK		